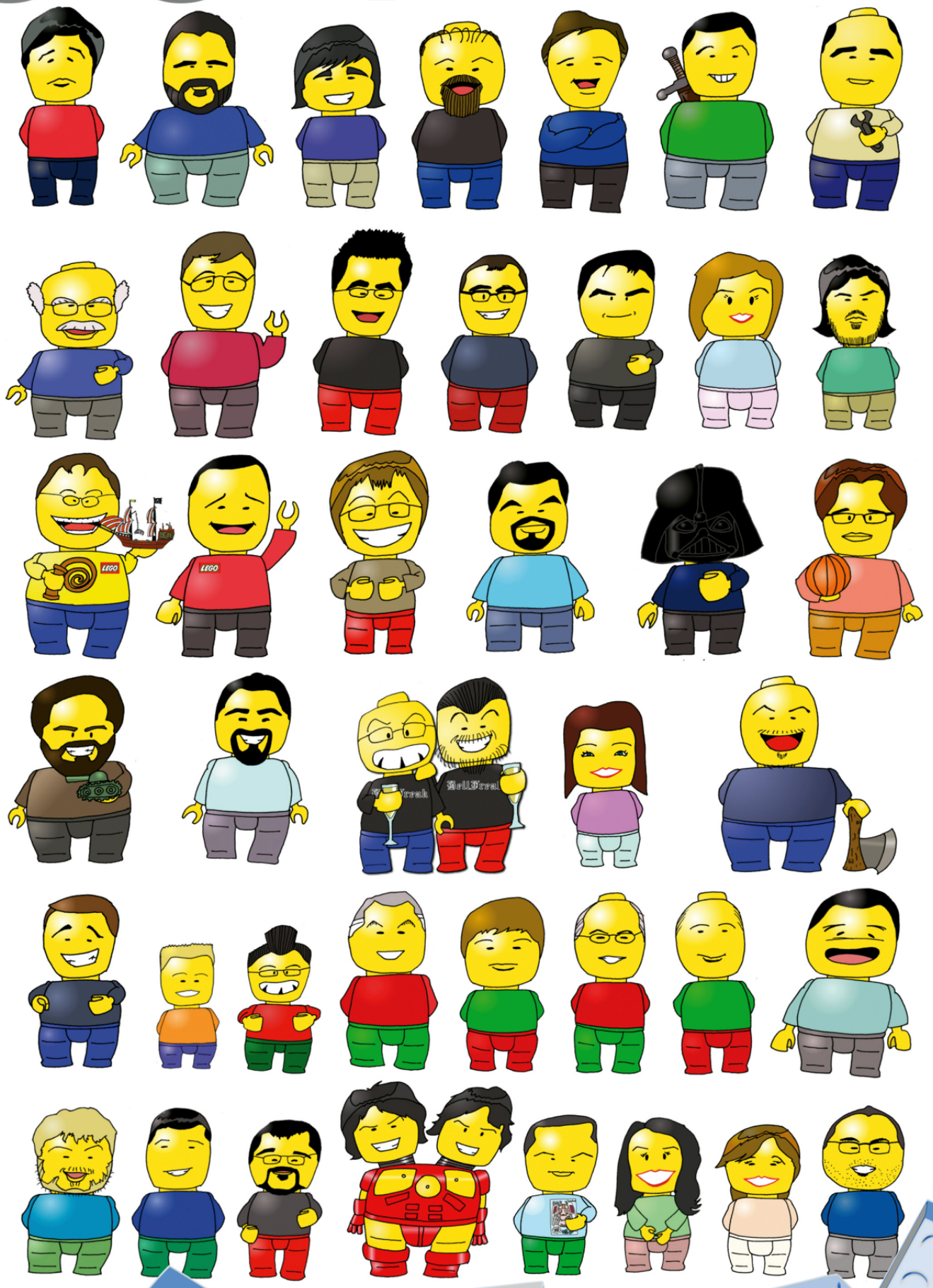


# 004

ENGLISH EDITION



## Redactores / Editor board

Carlos Méndez (car\_mp)  
Lluís Gibert (lluigib)  
Jetro de Château (Jetro)

## Diseño y maquetación / Design and layout

Carlos Méndez (car\_mp)  
Iñigo Lazcanotegui (g2bricks)

En este número colaboran / Authors of this issue

Antonio Bellón (Legotron)  
Carlos Encinas (Henry\_Chinasky)  
Claus Schioldann  
Jesús Delgado (Arqu medes)  
Koldo Olaskoaga (Koldo)  
Ramón y Amador Alfaro (arvo)  
Vicente Lis (Otum)  
www.hellfreak.es

## Nuestro agradecimiento a / Thanks to

LEGO® System A/S  
LEGO® Iberia S.A.  
Jan Beyer  
Joachim Schwidtal  
Rosa Seegelken

## Puedes contactarnos / You can contact us at

info@hispabrickmagazine.com

### Información legal

Los artículos y fotos en esta obra son propiedad de sus respectivos autores. Usted es libre de copiar, distribuir y comunicar públicamente la obra bajo las condiciones siguientes:

- Reconocimiento: usted tiene que atribuir la autoría de esta obra a "Hispabrick Magazine y otros autores" (y con el siguiente link [www.hispabrickmagazine.com](http://www.hispabrickmagazine.com) en caso de referencia electrónica).
- Sin obras derivadas: no se puede alterar, transformar o generar una obra derivada a partir de esta obra.
- Al reutilizar o distribuir la obra, tiene que dejar bien claro los términos de la licencia de esta obra.
- Alguna de estas condiciones puede no aplicarse si se obtiene el permiso de los titulares de los derechos de autor.
- Nada en esta licencia menoscaba o restringe los derechos morales de los autores.

LEGO®, DUPLO®, MINDSTORMS®, EXO-FORCE®, BIONICLE® y el logotipo LEGO® son marcas registradas de The LEGO® Group, copyright 2008, el cual no patrocina, autoriza o aprueba esta publicación.

Indiana Jones™ y STAR WARS™ son marcas registradas de Lucasfilm Ltd & TM. Todos los derechos reservados.

Todos los artículos con marca de fábrica pertenecen a sus respectivos propietarios y poseedores de sus licencias.

### Legal information

The articles and photos are property of their respective authors. You are free to share to copy, distribute, display, and perform the work under the following conditions:

- Attribution: you must attribute this work to "Hispabrick Magazine and other authors" (with link [www.hispabrickmagazine.com](http://www.hispabrickmagazine.com) in case of electronic reference).
- No Derivative Works: you may not alter, transform, or build upon this work.
- For any reuse or distribution, you must make clear to others the license terms of this work.
- Any of the above conditions can be waived if you get permission from the copyright holders.
- Nothing in this license impairs or restricts the author's moral rights.

LEGO®, DUPLO®, MINDSTORMS®, EXO-FORCE®, BIONICLE® and the LEGO® logo are registered trademarks of The LEGO® Group, copyright 2008, which does not sponsor, authorize, or endorse this publication in any manner.

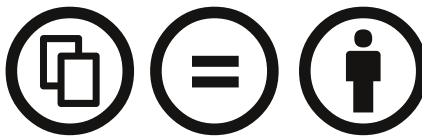
Indiana Jones™ and STAR WARS™ are registered trademarks of Lucasfilm Ltd & TM. All rights reserved.

All trademarks in this publication are property of their respective owners.



hispabrick  
magazine

004



Frontcover by:



Backcover by: Steven Marshall

# In this issue of Hispabrick Magazine

Editorial	3
Hispabrick 2008	4
Achtung Panzer	12
Around the world	18
Building Trees (III)	21
LDraw tutorial (IV)	24
The LDraw system of tools	28
An introduction to Robotics with LEGO® Mindstorms	29
Interview: Marta Tantos	33
MiniMOCS Dummy	36
II Japan Weekend Barcelona 2009	38
Living with an AFOL	40
Review: 6243 - Brickbeard's Bounty	41
Modelos alternativos: 7671	46
Great creators of the world: Steven Marshall	50
Desmontados	56
Our collaborators and translators	57
In the next issue	57



**18** Claus Schioldann, our first international collaborator



**41** We thought that they were lost in the ocean but they are back



**4** Everything about the Spanish AFOL event



**50** Steven Marshall, our creator in this month's issue



Lluís Gibert  
LEGO® Ambassador

## With a hangover

This is the first issue we launch after the Hispabrick 2008, where we have been present. You will find a comprehensive report of the event, as well as an interesting interview with Marta Tantos, Design Manager of the LEGO® Concept Lab in Barcelona, in which we will learn a bit about how a new product line is born, and the interview with the International AFOL, in this case the fantastic car designer Steven Marshall

The response of the public to the magazine was very positive and gave us a lot of encouragement to continue. We can also make a very positive assessment about the response of the community to the English edition. We had over 1200 downloads of issue 003, and there are more and more fans interested in participating and appearing in our pages.

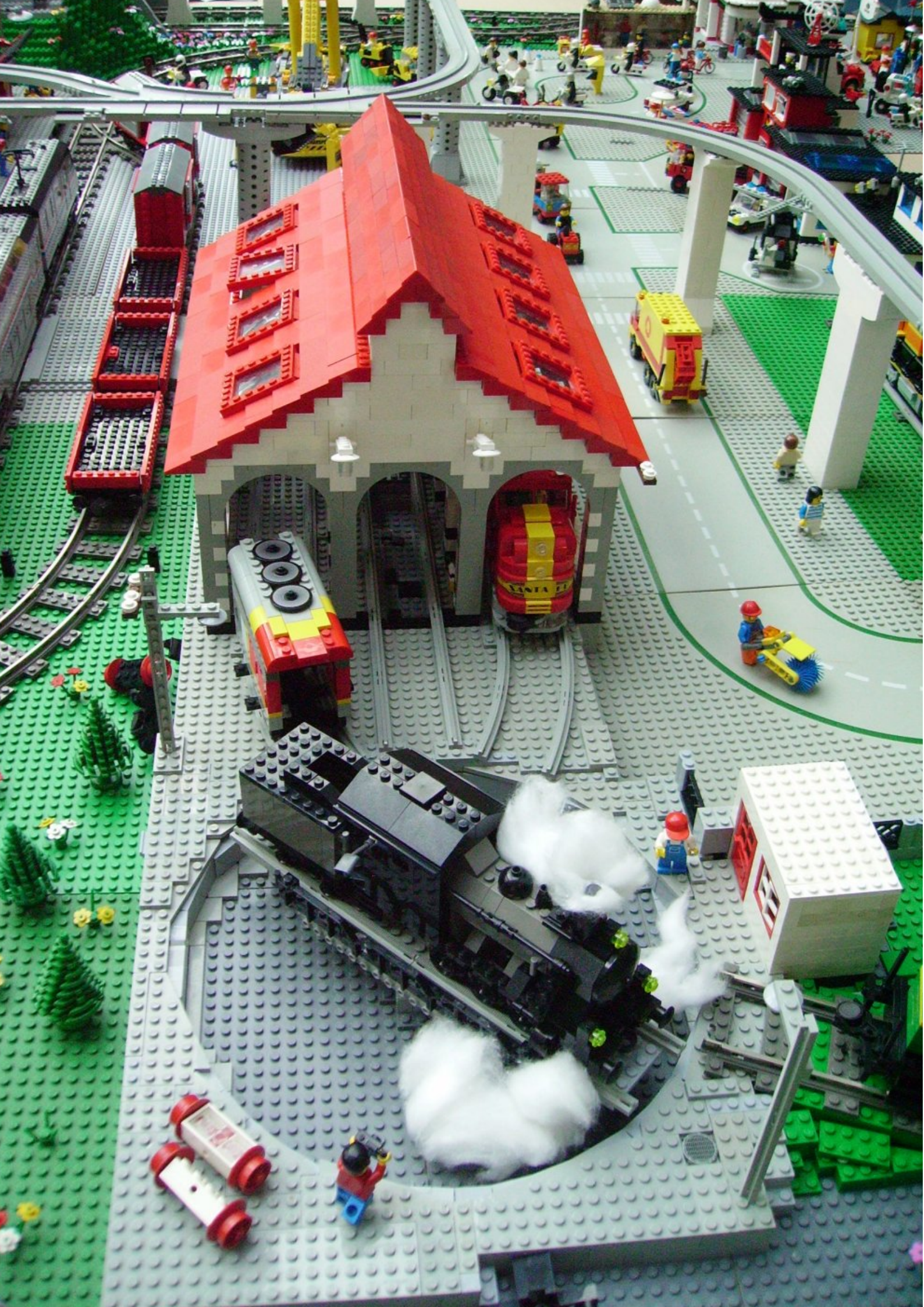
We would like to take this opportunity to thank all the people involved in the thankless task of translating the articles. Thanks to all of them, the magazine and, by extension, the Spanish community has more projection beyond our frontiers.

Not everything can be positive. We have to say that we need some more feedback. We know the number of downloads, and some very specific opinions but we lack a more global view about the opinion of the community in terms of content, design, sections ...

Sections is a topic that will evolve in future issues. We would like to diversify a little and add content that until now has had no place in the magazine. Therefore we encourage you to send us your suggestions to our mail. As always, it will be duly considered.

We hope, as always, that you will enjoy the magazine. ■







## HISPABRICK 2008

### The consolidation

Text by Otum

Pictures by Román Gibert, Eduardo Fernández and car\_mp

Artwork by [www.hellfreak.es](http://www.hellfreak.es)

Captain's Brick log, star date December 5, of the year 2008 after the Dark Ages, the Hispabrick 08 begins, yes, that's right, it begins on Friday. I know that lot of you will say I'm wrong, that the Hispabrick took place on Saturday and Sunday, but we all know that it really began the moment we close the door of our respective houses to start on our way to that small village of the Catalanian coast whose name I remember, and you all know, since for the second consecutive year the Hispabrick takes place at L'Anec Blau. As I was saying, the party begins the moment that the trip begins, we all move all the way to the hall of the hotel, meeting point and reunion of the participants. During the trip we think about what the other participants will bring, especially the arvo (or don't we?), and where we are going to place the things, as well as some prayers in order that everything that we transport arrives as whole as possible (how angry and upset we get when we pick up something and it comes to pieces in our hands).

Arrival at the hotel, the first official act of the Hispabrick, greeting Mr. Pedro Cerdón, an institution, we all know that without him, it would not be the

same. After complying with protocol, we proceed to greet some of the others, to comment on anecdotes, to try to find out what each one has brought, and to leave our luggage in our rooms. Once we are all together, it is time for another one of the big moments of the Hispabrick, the convoy... a row of cars travelling approximately 200 meters and blocking one of the exit lanes to be able to access the loading bay.

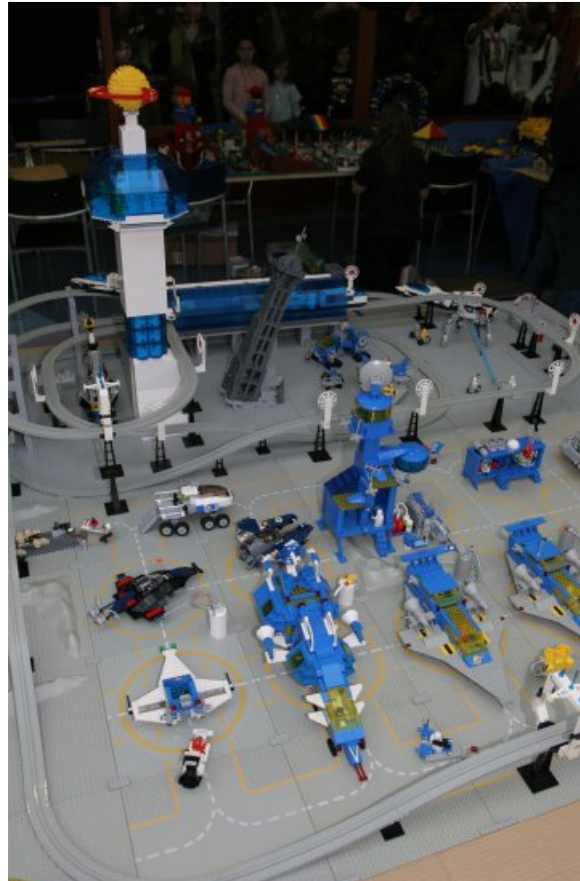
After dodging garbage containers and boxes, we park our vehicles, and we start to check out what each one has in his car, trying to figure out how each one has transported it and in what state it arrived. While this is happening, some of the participants look for a trolley or something similar to be able to move everything to the place of the exhibition/party. During the transport of the different boxes with MOCs commentaries arise on the things that can already be seen, like "what does this carousel look like", "whose is that Star-Wars's ball that has been spotted in the warehouse", etc ... After several trips up and down, everything is safely stored in the warehouse that the mall has kindly made available



to us, and everyone goes for supper, most of us in the mall. Tomorrow will be a great day.

Finally the official start of the Hispabrick 08 has come and we all gather in the lobby of the hotel to go as a group, like worshipers of the Brick religion, to build up the different MOCs and sets that will be exhibited. On arriving to the mall the ritual dance of the tables begins, but this year with the added surprise that some participants decide "to assault" the loading area and get cardboard and plywood, as well as a beggar (a great moment of José, aka satanspoet, wrapped in cardboard, hehehe). While everything is put in place, a 'shower' of pictures is taken while the surprises that have been prepared by the participants are revealed. But like last year, there was a moment that paralyzed all activity: the appearance of "the doll" by the arvo brothers. These fans of Noel and Liam Gallagher are from another galaxy. In addition there is the already traditional welcome meal that the mall has prepared and the distribution of ID cards and the different gifts to the participants.

At 12 a.m. sharp, with Spanish punctuality, the welcome speeches begin. Lluís Gibert, the LEGO® Ambassador of the Spanish community, starts off, giving thanks to everybody for coming, thanking the mall for its help for this event, and giving special thanks to Jan Beyer, the representative of The LEGO



Group Company, for his presence and support to this event. Representatives of LEGO Iberia, and members of the Portuguese community PLUG are also present. Before concluding his intervention, Lluís presents a commemorative gift, designed by Carlos (car\_mp) to several participants and attendants to the Hispabrick 08, among others to Jan Beyer, to Carlos himself and to Alexandra, the representative of the mall.

After Lluís, Ricardo Cordón, "Rick83", a highly valued member of the Spanish AFOL community, and manager of the Spanish-speaking forum HispaLUG, speaks. Ricardo again thanks us all for our presence, and urges us to enjoy the party.

Doing a tour of the different areas of exhibition we find the GBC coordinated by Jetro, our most international member, which consists of a set of modules which are made with Lego pieces and using the Mindstorms system and that, connected to each others, form a circuit that automatically transports by balls from the Sport series all the way around. After that there is the Technic section, where the illustrious and mythical supercars can be observed, besides other official sets and a spectacular 4x4 truck by Sheepto, radio controlled by means of the Power Functions system.

After passing the access point to the interior of the



enclosure of the exhibition, we come to a table on which some of the new sets for the year 2009 are presented, courtesy of LEGO®. Among them the pirate ship, that our Ambassador has so patiently built with dozens of eyes looking at him doing this pleasant task, stands out. Right at its side, there are a few wonderful MOCs of a new participant to the party, there is a house of a fantasy world, a fig and the emblem of the forum of the Spanish community built with bricks.

We move on to the MOCs exhibited by one of the illustrious ones of the Spanish LEGO community, and the creator of the Hispabrick Magazine, Carlos, better known as car\_mp. His MOCs are a wink at science fiction and its followers. There is a great reproduction of the heads of Bender and Zoidberg (Futurama), as well as a radio controlled R2-D2 with Power Functions system and another R2-D2 in a smaller scale. There is also a small sample of different vehicles that can be built with bricks.

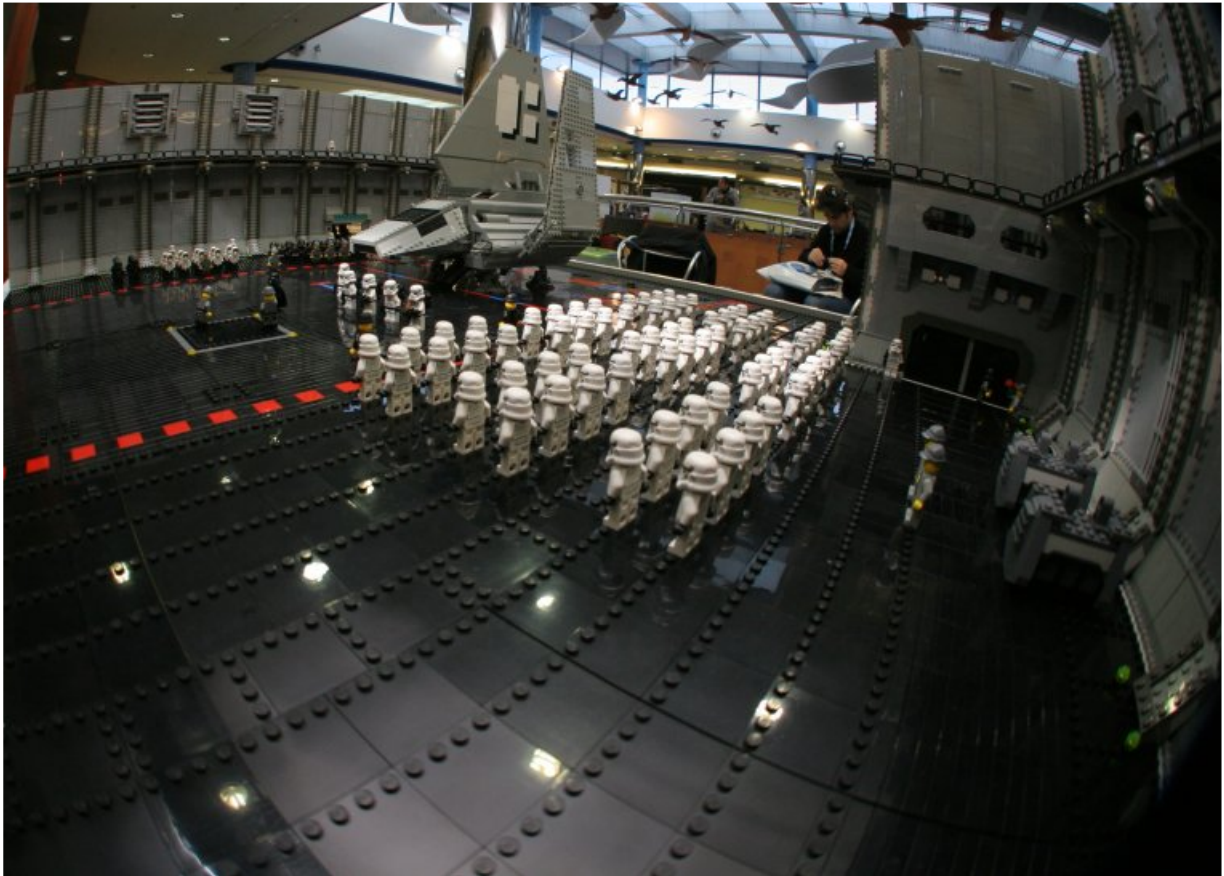
We move on to another one of the new participants of the party, Gobernador, in my opinion a name that isn't quite right given his tendency to support the most intrepid of pirates. His presence adds a new image and re-arising of the Pirates theme. A large part of the official sets of the pirate theme created by LEGO in the 90s is shown. At the sight of this fleet, which includes the greater part of the official sets of the

LEGO pirates line of the 90s, even Davy Jones would flee, scared, to his Flying Dutchman to saty at a safe distance. His only problem is that he would run into the medieval troops shown together with the library tower, in the purest style of "The name of the rose", that were created Pedro, our community member from Reus. Certainly Pedro, my congratulation to your lady for these monk's habits so well recreated. To this medieval setting we need to add a small dedication to epic fantasy in the shape of an Ent, or a stone Golem.

We come to the section honoring the superheroes or the guys in pyjamas, whichever you prefer, created by the two members of the forum who best know the world of comics, Joan (dirty) and José (satanspoet). The partner of the latter, Gemma (Bitxa), as knowledgeable about this world as they are, and the writer of this article, make a small presentation of the official sets dedicated to Spiderman from Marvel and to Batman of DC comics. After that, there is a small show of planes made by Ignacio, a flying Steampunk ship, next to the swing bridge, and a small representation of Exo-Force.

To rest a bit from the tour we are taking, allow me to comment on the numerous additional activities that existed in the Hispabrick 08. We have the area for children with thousands of bricks, supervised by monitors the mall has provided. In addition





throughout the day building contests are done for children, with a prize for the winners of the semi-finals and to the final winner, as well as a “shoot at the basket” contest with a set of the Sports line. These contests are supervised by the participants who selflessly lend their help.

Believe it or not, but this is still on Saturday, and after the official closing to the public, a new event begins at the Hispabrick, the pick a brick, or I should say “feed of the animals”, more than anything because we all look like farm animals being fed, down on the floor, in a circle around the TechBall field presented by the Portuguese members, waiting for the rain of bricks that Lluís has dropped from a distance.

The first day could not finish without another one of the unwritten traditions of the Hispabrick, the gathering of some members, equipped with some refreshments and something to eat, until deep in the night (security personnel had to ask them to please leave and go to sleep, hehehe), sharing laughs and opinions with regard to this great hobby that unites us.

Sunday begins with another big event, the auction of sets, where the most contended sets are the innovations for 2009. The rest of the morning passes without further surprises, a good moment to take in the details we couldn't see the previous day.

Continuing with the tour we were doing previously, we come to one of the most visited sections, Star Wars, where the participants have created scenes to integrate the official sets, enriching them and making the exhibition much more interesting. Of course the hangar of our master of the dark side, Legotron (Antonio), as well as his figs of the storm troopers from Star Wars™ are there as well, followed by small set inspired by World War II.

We come to one of the most pleasant surprises of the Hispabrick 08, the fairground: a series of MOCs which together make up one of the nicest shows of the exhibition, with a carousel, the treadmill, the octopus, literally speaking, the rapids, with its canoes, there are even bumper cars. Special mention must be made of the entrance to the park and the shops that adorn the diorama. Right at its side we find Juanma's (jm) submarine world and his Aquazones.

Now we come to one of the dioramas of the Hispabrick that has caused most expectations, the City theme, and its 9V train that travels around its perimeter and serves as a link between the different sections. This year it also incorporates a monorail, Manticore's (Jesus) mistress, and the surprise of the Mantinero Express, a train so long it makes the orient express look like a streetcar, which was also



built by Manticore who, for lack of the Sulaco, has decided to delight us with this show of wagons. Another great contribution to this diorama is the one by Legofan1974, who adapted a double crossing to make it work with 9V, as well as the interesting overhead power cables he has developed, without forgetting the lighthouse contributed by Carlos (car\_mp). But this diorama would not be complete without the presence of the best knower of City, Ricardo (Rick83), and his big contributions to the LEGO® world in Spain. What would we do without our Legopedia in the forum.

Finally we have the Space diorama, which just like the City diorama, has a connecting element in the shape of a monorail. This diorama, which has been built principally by Carlos (car\_mp) and Manticore (Jesus), contains numerous tributes to sci-fi movies, from the opening eggs from "Aliens", to an adaptation of the final scene of "Planet of the Apes" (that Eiffel Tower ...), including some Star Wars ships, a minifig size Bender and the obelisk from "2001: A Space Odyssey".

Don't worry, I have not forgotten, I know, I have not said anything about the arvos, but, sincerely, what can I say about these two brothers from the Manhattan of Castilla-La Mancha. I have no appropriate words. What Amador and Ramon present us are, once again, the most celebrated and admired

MOCs of the Hispabrick, beginning with every day things like a pacifier, a pair of diving goggles, a camera or a typewriter, continuing with their reproduction of Akira's motorcycles (special mention to the Canada one, I adore that motorcycle), and variety of cars, like the Beetle or the Seat. But the absolute winner is The Doll, this cybernetic being of docile appearance that from the anime movie "The Ghost in the Shell". It is impossible to describe this arvo creation with a few words, so we must read the article about it in issue 003 of this magazine. But in this case, its appearance did not have anything docile. Quite the contrary, it was scary to see its inside perfectly reproduced with bricks by the hands of these two brothers.

With this I conclude my tour of the exhibition at the Hispabrick, but this article isn't ending yet, as there are still many things to tell. Among them is the "build it in the bag" contest for the participants of the Hispabrick, with a prize for the winner and the finalist with Lego sets. Another activity is for the participants of the Hispabrick is the construction of the souvenir set without instructions, and the contest of the 50 piece MOC, both with prizes in the shape of official sets.

After the closing speeches, in which the participants and attendants are once again thanked, we proceed to gather everything together, much more quickly



than during the building up, since everything is put in big boxes ready to be organized at home.

Still a last activity remains before saying goodbye. During the closing dinner which we have all together there is a raffle of several official sets, and many comments evaluating these last two days. Now can we only travel back home thinking about the next Hispabrick.

With this I conclude my article about the Hispabrick 08, my apologies for the details that I have not

mentioned, which surely are many, and for the people I have not named, but I would like to thank you all for your participation in this event. Special mention must be made of the long-suffering organizers of the whole event, and also I want to invite you all for the next Hispabrick.

**See you at the Hispabrick 09!! ■**





## Achtung Panzer !

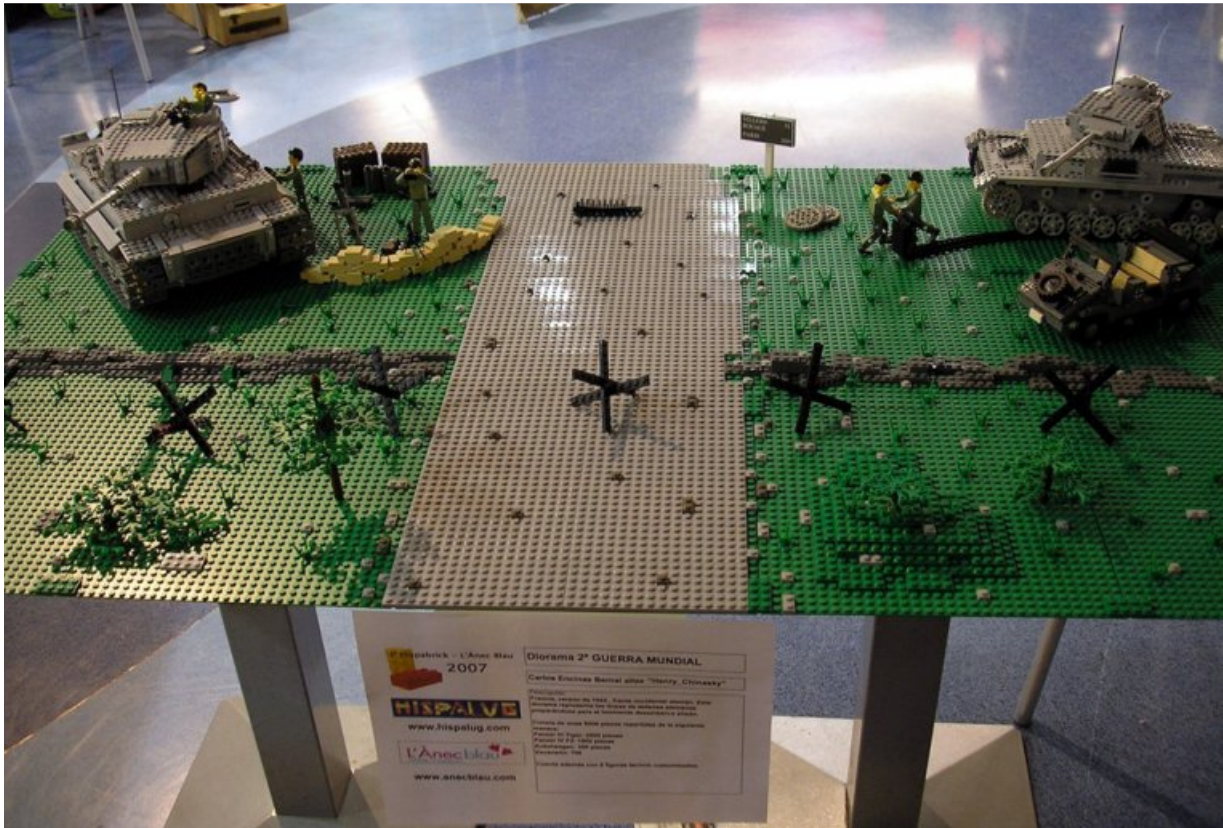
Even though there is no specific LEGO® theme, military vehicle building with LEGO pieces is a widespread practice throughout the AFOL community. Not only because of the spectacular results, but also because of the infinite possibilities LEGO pieces offer you.

Text & pictures: Legotron and Henry\_Chinasky

**H**ispabrick Magazine: Browsing the net, you can see that the amount of tanks, war ships and airplanes built by LEGO® fans is huge. During the last few months, in HispaLUG, we've had the opportunity to see a series of military vehicles that try to emulate well-known war machines from World War II, under the title "Achtung Panzer". This project has been carried by HispaLUG members Antonio Bellón (Legotron) and Carlos Encinas (Henry\_Chinasky).

**HM:** The first question is an obvious one: Why did you decide to start making tanks?

**CE:** In my case, it has been a long time hobby. As a kid I played with LEGO, but I also built many plastic models of different vehicles, including tanks. I thought this was a good way of combining two hobbies: Building some of the tank models I had (preferably from the WWII) with LEGO®.



Carlos Encinas' Diorama in Hispabrick 2007

**AB:** The same goes for me. After 20 years of building models, I've come to know and built practically all of the WWII vehicles. The idea of building them with LEGO has always been inside my head, I just needed that little push.

**HM:** How did you come up with the idea for this project?

**AB:** To tell you the truth, this idea started with the diorama Carlos showed at Hispabrick 2007. I just found it fantastic, full of details, and the tanks looked spectacular. So we started talking, and I mentioned I was a great fan of tank models, and he suggested the idea of making it a joined project. All that, and the chance to purchase some of the war themed LEGO compatible custom pieces, encouraged me to join the project. And here we are.

**HM:** Within the military theme, there are many armies and tanks. So why base it on German vehicles? Wouldn't you prefer making different ones?

**AB:** Hahaha... well, the first question is easy to answer. It is because those are our favourite ones. We could have started with something else, but probably they wouldn't have caught our attention as

much. I've built hundreds of models, and around 80% of them are German Vehicles, so in terms of aesthetics, those are the ones I like the best. About making different models, the amount of time and money we have available, restrict us when starting projects, but eventually we will.

**HM:** What do you consider more important, a design that is close to the real models or a functional design?

**CE:** I prefer a design as similar as possible to the original tanks, even if it means less playability. The proportions used when building also affect if a model ends up more playable or more realistic. For the minifig size, it is rather hard to come up with designs that are realistic and playable at the same time, but in bigger ones it's easier to manage both.

**AB:** I agree with Carlos. It's preferable to sacrifice some of the functional characteristics or moving elements to achieve a better look. In fact, one of the harder problems to solve is getting the perfect proportion. Due to the thickness of the pieces and the minifig size, the models have to be built bigger to get a final result that is as close as possible to the original vehicles. You have to keep in mind that the



Antonio Bellón's Panzer IV Ausf. H

thickness of the pieces and the shape of the minifigs limit their use and this doesn't allow us to build certain elements, like places to put the minifigs in. But we also try to go for the LEGO® look, so a model is we built and taken apart many times until we get something we are happy with. After all, that's the interesting part of all this.

**HM:** What inspires you when making the vehicles?

**AB:** Well... photos, books, models, etc. But the most inspirational thing are the incredible galleries of other vehicles built with LEGO what you can see on the net.

**HM:** What is the hardest part you've come across when building something like this?

**CE:** In my opinion, the hardest part is getting the pieces you need for every model. Sometimes you order something, and in the end it doesn't work, or you already had something else that ends up looking better. It never ends... hehe.

**HM:** When building the models, which one gave the most trouble?

**AB:** In my case, rather than a single model, the trouble came with certain parts of different models. I had a hard time with the design of the turret of the Panzer IV. There was no way to make it lower while

allowing the addition of a cannon that could move up and down. Also the angles of the sides kept driving me crazy. Since it was my second model, I lacked the expertise for making that sort of details, and I ended up trying it dozens of times before I ended up with something I liked.

**CE:** The model that gave me the hardest time was the Tiger 1 in a 1/20 scale. Not so much because I wanted to get a realistic model, but because of the complexity of motorizing all the functions, adding suspensions, etc. As a matter of fact, between waiting for Bricklink[1] orders, design changes and other things, it took me around 4 months to finish it. Due to the difficulties it presented me with, it ended up being one of my favourite models (I still keep it built in a shoe box, and take it out for a walk every now and then). I also like the other minifig sized Tiger. That was my first one in that scale and I think it ended up looking pretty good.

**HM:** Oh yeah Carlos, you've not only been building them in minifig size, but also bigger with remote controllers and motors. Could you tell us about it?

**CE:** At first the models didn't have motors, but checking around the net, I saw wonderful models filled with motorized functions (especially Jennifer Clark's site). And I thought, Why not? Back then the Power Functions weren't out, so I had to deal with the old motors and many cables and switches. Once



Carlos' Tiger I with Power Functions

Carlos' Minifig sized Tiger I



the Bulldozer appeared, I was able to finish the project and make a fully motorized RC tank out of it. I can't thank LEGO® enough for making those motors!  
**HM:** What details surprised you most when building your models?

**CE:** As a curious technique, maybe the one I used for the tyre in the minifig sized Tiger. Thinking about all the size stuff, I ended up finding out how the dented tyres and the 4L bars (as axes) could connect perfectly. Then, putting a dish as a hubcap made it look smoother, and thus closer to the real thing.

**AB:** The most curious thing for me was how easy it is to make different versions of the same tank once you build one of them. It's like a plague, once you design a model, many ideas start popping up for making different versions based on the real models. For example, for the SdKfz 251, after finishing the basic model, I already had in mind 4 or 5 variations for it. I kept building on top of the existing chassis many times and then I would finish those that I thought were good. I'm pretty sure that if I had the time and money to get all the pieces, I would have at least half a dozen different versions of the Panzer IV, hahaha...

**HM:** One thing that caught my attention about your constructions is that all the tanks you make are grey. What about the camouflage colours? Is there any reason you use grey exclusively?

**AB:** Well, that's an interesting question. There are many reasons, but the main one is the availability of pieces. First of all, the pieces we need for building the tanks exist in Light Bluish Grey: axles, wheels, gears, Technic pieces, and all sorts of other pieces. Other colours lack some of those pieces. But the main problem comes with the construction of the tracks. Light Bluish Grey is the only colour that has gears in all the sizes we need. Also, the first German tanks were dark grey, so it fits pretty well. Apart from that, grey is a colour you can link to military themes easily, and it looks pretty good on pictures.

**CE:** Well, to tell you the truth, the thing with grey is pretty simple. It is the colour I have the most of. I managed to come out of my Dark Ages thanks to LEGO® StarWars™, and the imperial ships are full of grey parts. I've been thinking about making a model with camouflage colours, or simply a Tiger in Tan, like those used in North Africa, but the lack of certain pieces in those colours, and most of all, the price kept me back. You can really see wonders using camouflage colours in Brickshelf[2] or MocPages[3] though. Maybe some day...

**HM:** Carlos, What would you highlight from Antonio's constructions?

**CE:** The best thing about Antonio's models is not only how he keeps a balance between realism and





playability, but the models he decides to build. It's really nice seeing less known models and not the ones people keep building. There you can see he really knows a lot about models and WWII history overall.

**HM:** And what about Carlos'?

**AB:** Well, in the first place, those 1/20 models that are not only fantastic reproductions, but are also motorized and can be used pretty much like an RC tank. They are awesome. About those minifig sized ones, I can see that his constructions are full of intricate techniques, and he manages to make the models perfectly identifiable with the original tanks.

**HM:** Apart from constructing military vehicles, Have you developed any other projects following the same theme?

**AB:** Uhhmm, well, we have started a blog called Panzerbricks[4], which I hope we can eventually fill with references to similar constructions from other people, and of course ours! A small guide to show what you can see on the net about the WWII vehicles built with LEGO®.

**HM:** And as a last question, what are your plans for the future?



Previous Page Above: Antonio Bellón's Einheits Diesel Kfz truck



Above: Antonio Bellón's Stug IV and Marder III Ausf. H

Previous Page Down: From left to right: SdKfz 251/1, SdKfz 251/9 and SdKfz 251/10

**AB:** Well, right now the preparations for Hispabrick 2008 keep me really busy, including a diorama we want to show therewith all our panzers. So nothing much until everything is over. After that we'll see what our next challenge is.

**CE:** The same goes for me. Actually, if I don't start building, I won't be able to finish the diorama we planned together, so imagine thinking about long term plans.

#### References:

- [1] Bricklink: Website with information, and for selling/buying LEGO® - <http://www.bricklink.com>
- [2] Brickshelf: Website with LEGO galleries - <http://www.brickshelf.com>
- [3] MocPages: Website with LEGO MOCs galleries - <http://www.mocpages.com/>
- [4] Panzerbricks: Blog about panzer building with LEGO - <http://panzerbricks.wordpress.com/> ■





## Around the World

A journey that started in the Danish capital, Copenhagen, in the spring of 2008.

Text by Claus Schioldann

Pictures by various artists and Claus Schioldann

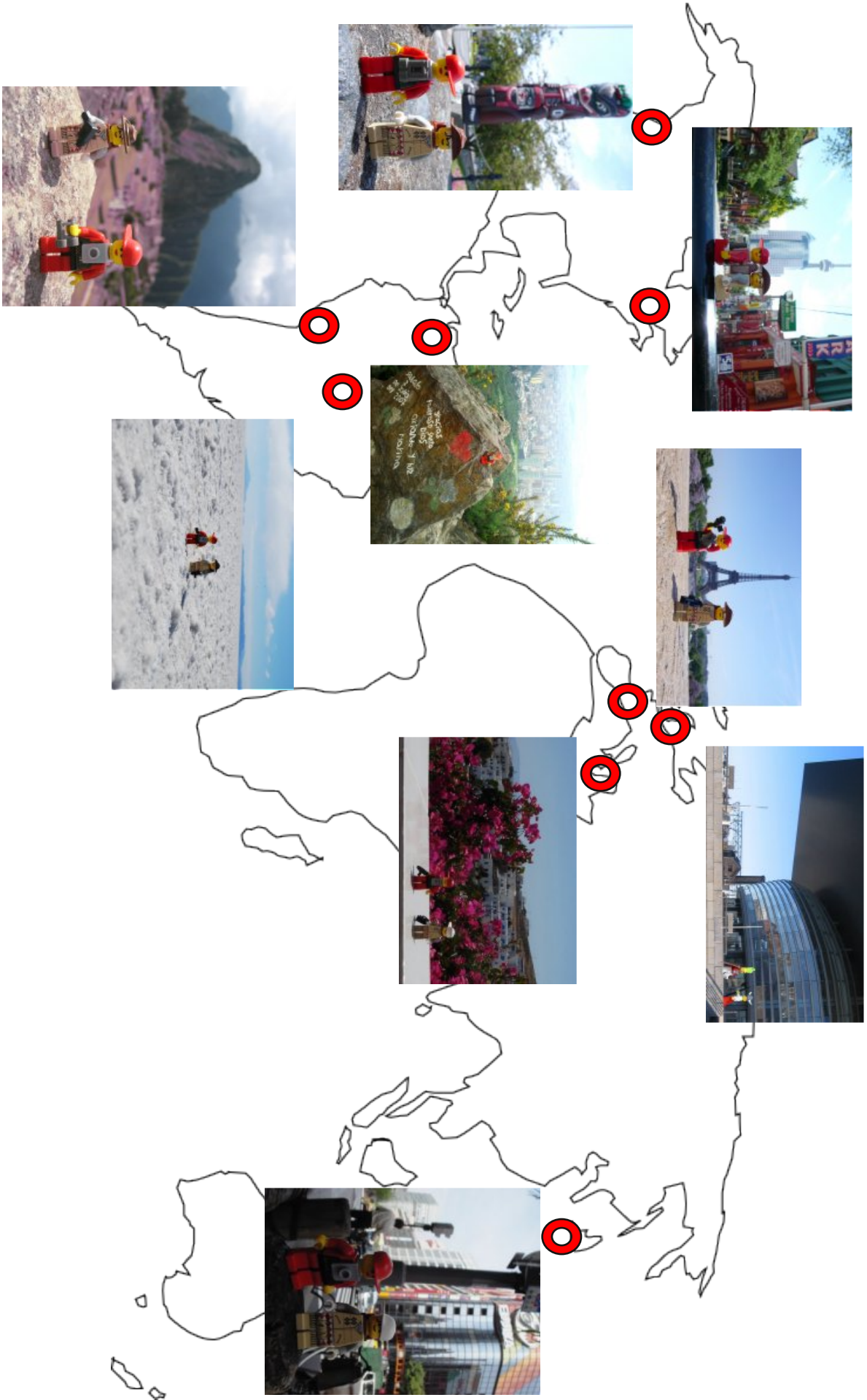
**W**ith the help of many unknown, but helpful travellers, Jo-Jo and Frikke are travelling around the world. The two Legominifig's are sent with friends and friends friends around the world, the goal is clear: all continents in 365 days. Everything to be documented by digital photo's posted to the blog [jandf-world.minifig.dk](http://jandf-world.minifig.dk).

It started with a newspaper article about a teddy bear, that had gone around the world on it's own. A good idea, that inspired geography lessons at the globe of the house. But as the teddies of the house were too dear to go without for a year, we chose two Legominifigure's from the Legobox in the playroom. Our kids named them. Frederikke, eight years and Johannes six years, nicknamed Frikke and Jo-Jo, sat by the play table and assembled the minifig's. They have their own tinbox, but before the tour

around the world could start, we took the fig's to the local village square, named after one very famous danish writer, Dan Turell. Later we went to Copenhagen where they posed in front of the famous opera house and the new actors house.

### Going East

First leg of the trip was Paris. In a padded envelope they were sent to one of the families good friends Christian. He took them to the Eiffel Tower, Place de Concorde and the Lena Bridge. Christian, who have lived in Paris for the past twenty years and many other places before that - he is of Danish-Swedish origin - he was the obvious choice for the first stop - the man with many connections around the world. He made sure that Jo-Jo and Frikke were sent of by air plane to Tokyo, Japan. Together with Joce, they





The "Search and Rescue" team in Perth, Australia

saw every shopaholics paradise the Ginza district. A breathless trip! After that a rest was needed and Joce took them to the Greek island Paros.

### Going West

Returning to Paris for a short stop and then off to Canada. First stop Toronto and the CN Tower, then to Victoria and Totem Poles. After dancing around the totem they went to British Columbia and saw the Parliament. Tofino, Vancouver Island - one of the worlds best surfer spots got a visit too. They did not get a ride on a board though. Frikke and Jo-Jo did only watch. Prince Rupert is one of Canada's most beautiful wildlife reservation's. At a distance our two friends did admire the amazing wildlife.

### Going South

After North America they went to South America. Bogota, the capital of Columbia is not a boring place to be. Partying day and night, specially when you visit the french artist Tutus. The stay with Tutus was short. Jamie Frankling from Catomusic and the Cato Trust took our small friends off to the wide salt plains of southern Bolivia: Salar de Uyuni. Going North again, still in South America. They did visit the beautiful Andes in Peru - Machu Picchu where the Inca Indian's lived got a visit. Louisa was the one that took our small plastic friends to the floating islands also in Peru, the Lake Titicaca.

### Silence

Some times our small friends went from one place to another very fast and at other times it took weeks and we did not hear anything. Right now we have not heard from them in a very long time. We do not know if Louisa have forgotten our small Lego friends at the floating islands in Peru or if they are in a place without Internet connection and equipment to access it with. The have yet to visit Australia, Africa and Central America, we hope that they will make it before the end of April 2009...

### Search and Rescue

When we did not hear from Jojo & Frikke around Christmas we decided to call on the Search and Rescue team - t3T ( the trio team ). Mr. Trilby (the boss), Miss Trixie (the daredevil) and Mr. Trax Jr. (the pathfinder). We did send them of to Australia (Perth in West Australia ) where they seached for Jojo & Frikke at the local university, the beautiful beaches and the many bars and restaurants.

They are now en route to Panama City and we hope to hear more soon...

Claus Schioldann lives in Denmark and is a member of the LUG byggepladen.dk■

# Building Trees (III)

A single tree can represent a focal point in a diorama, therefore it should be appealing or spectacular to attract the viewer's attention

Text & Pictures by Legotron

What seems to stand out from a good LEGO® tree is its greenery, and consequently the amount of green pieces used to give shape and build the foliage. But charming trees with interesting trunks and branches can be built without having to resort to saturating them with green leaves.

This new building technique we are going to see is going to be used for representing deciduous trees, those trees which lose their foliage for the winter, like elms, ash trees, poplars etc. This will allow us to exhibit trees with or without leaves, depending on the way we want them to look. Therefore we will have to emphasize the construction of the trunk and branches.

Due to the big diversity of trees, with their different shapes and branch disposition and all, we will build a medium sized tree of around 20 bricks high (without the leaves). For this kind of constructions, it is really important to have a good supply of brown bricks, slopes, plates and hinge plates. You don't need to always start building with brown, as you can combine the pieces with dark grey/dark bluish grey, dark brown, dark tan and reddish brown. In our case we will build the tree just using the stock of available brown pieces.

## Necessary pieces.

The pieces that are going to be used for the construction, named according to the denomination given at Bricklink[1], are the following:

For the base:

- A Green 6x6 plate.
- 3 or 4 Green plant flower stems for decoration

For the trunk (assuming the tree's height is about 20 bricks):

- About 5 Brown Brick 1x1.
- About 5 Brown Brick 1x2.
- 2 to 5 Brown Bric 2x2.

- 2 to 5 Brown Corner Brick 2x2.
- About 15 Brown Plate 1x2, Corner 1x2 and 1x3, for the secondary branches.
- About 15 Brown Plate 1x4, 1x6 and 1x8, for the main branches.
- A few Brown Plate 2x2 to secure the trunk.
- About 15 Brown Plate 1x2 Locking with 1 finger on end, and Hinge Plate 1x2 Locking with 1 finger on side, for the branch connections.
- About 15 Brown Hinge Plate 1x2 Locking with 2 fingers on end, for the branch connections.
- Half a dozen Brown Slope 33° 3x1, 45° 2x1, and 75° 2x1x3, for connecting the trunk and the roots.

For the branches:

- 3 to 5 Green Plant leaves 5x6.
- 40 to 50 Green Plant leaves 4x3.

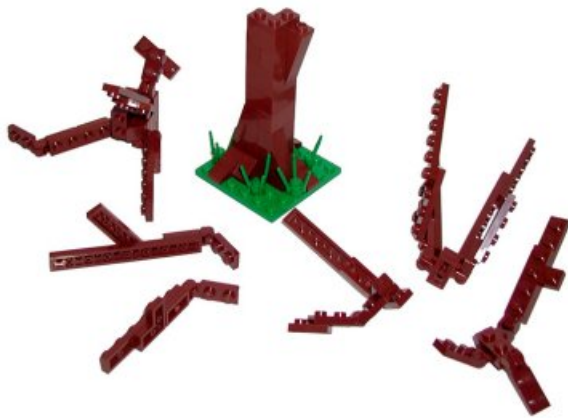
## How to build

We will start building the base with the 6x6 plate, on which we will put the different slopes to simulate roots that pop out of the ground. It is recommended to spread the different slopes in different directions to get a more realistic result.

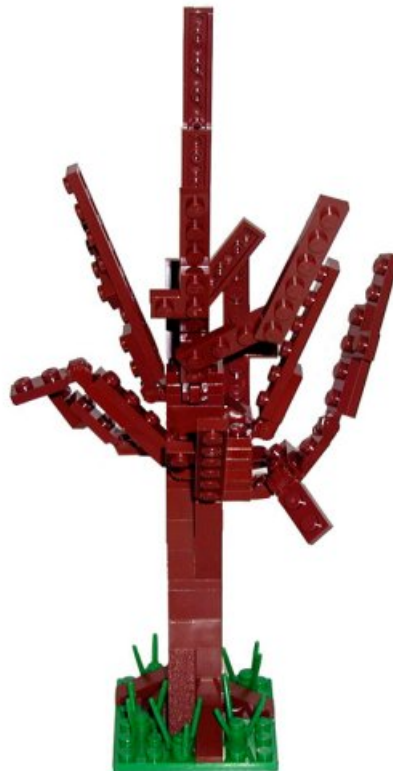
After that we will keep building the trunk with the available bricks until reaching the level of the highest slope, on which we will put a few 2x2 plates to secure the trunk.

From there we can start playing with the shape of





Different stages during construction



the trunk using bricks and inverted slopes in order to prevent the trunk from looking completely straight, until we reach a height of around 8 to 10 bricks, where we will once again secure the trunk with 2x2 plates.

This is where we will start building the main branches. It is important to have a solid base that doesn't break when we start connecting them. In this step, we will start building the branches with the different hinge plates. But before putting them on the tree, it is recommended that you build the main branches connecting 2 hinges. If we start putting the hinges directly on the tree, it is very likely it will break before you can finish the whole thing. So it is convenient to connect the joints with the longer plates (which correspond to the main branches) before setting them on the tree.

Once we have around 10 branches, we can start putting them on the trunk we built, alternating them with different bricks to give the whole thing a less uniform shape. The direction of the joints can be changed in order to give it the look we want.

After putting together everything we built so far, we can carry on with the secondary branches, which will be built connecting small plates to the main branches. At this point, we can start adjusting the angle of the hinges to find the shape we want for the top of the tree, but always carefully, since these changes can make the tree collapse!

Once we are done connecting the last branches, we

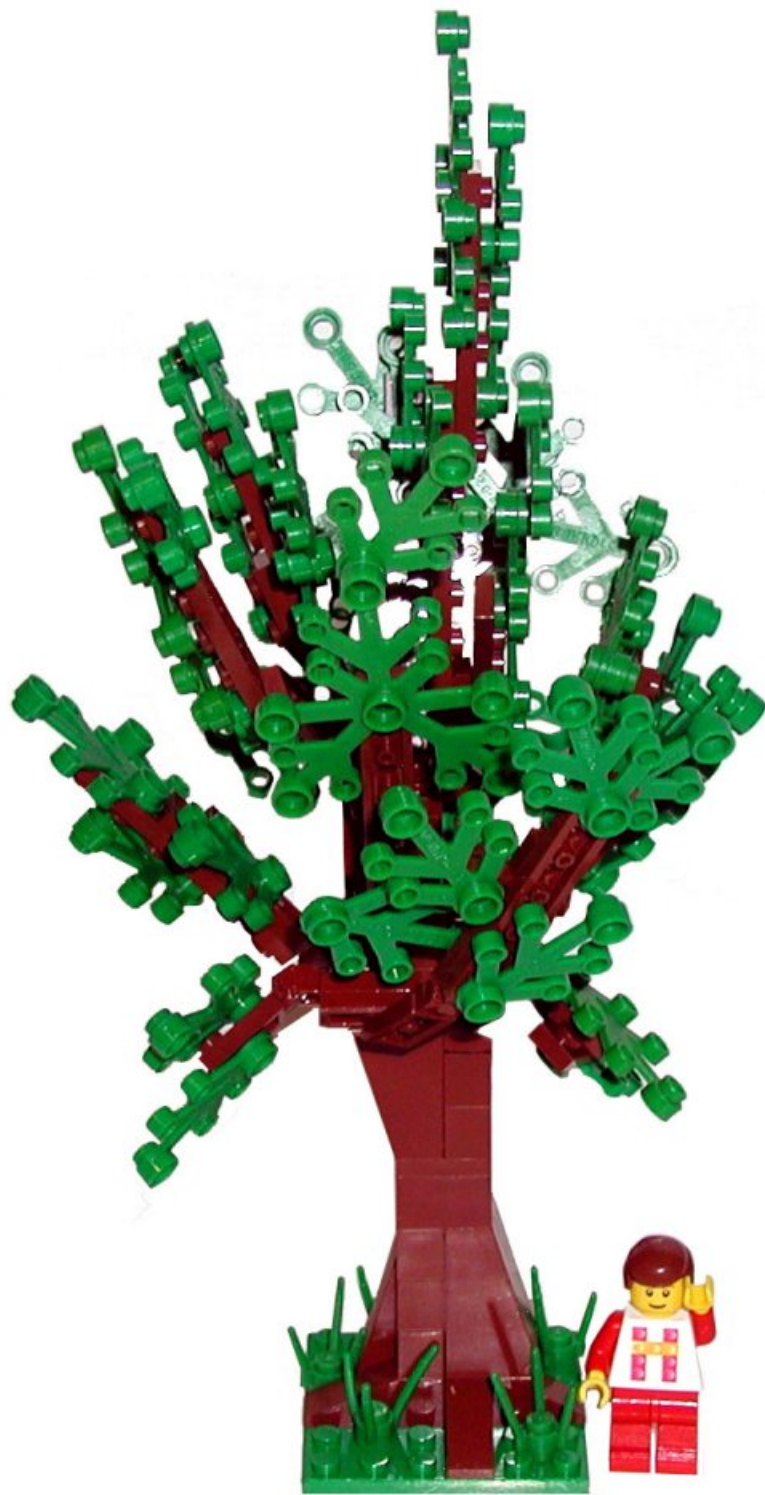
will have a tree without leaves, that could perfectly be used in a winter diorama.

For building the foliage, we should start filling the branches with plant leaves 4x3 and plant leaves 5x4, starting from the inside towards the outside so that the leaves we place don't get in our way and we won't end up knocking them off as we put on more. In this case, since the tree has a smaller density of leaves, we should try to cover the branches as much as we can in order to have the least amount of visible brown bits, especially on the tips of the branches.

As a final touch, we could cover many of the leaves with Tan, Dark Tan, or Brown plate round 1x1 to simulate the autumn and the colors of the leaves during that season.

References:

[1] Bricklink: Unofficial website for selling and buying LEGO® pieces - <http://www.bricklink.com> ■





# LDraw Tutorial (IV)

In this part of the LDraw tutorial you will discover an easy way to avoid mixing official and unofficial parts as well as learn the basics of the flexible part generator LSynth.

Text and Pictures by Jetro

## Keeping unofficial parts separate from the official ones

In a previous part of this tutorial I explained how to find and include parts that are not officially available. There is a way to keep these unofficial parts separate from the official ones and still have them available in MLCad, but it requires making some minor adjustments, as well as including the unofficial parts inside the MPD file (which is recommendable anyway if you are going to use unofficial parts).

You will need to edit the MLCad.ini file which can be found in the installation folder of MLCad (typically C:\LDraw\Apps\MLCad\MLCad.ini). It is a plain text file with a large help section. Towards the end of this file you will find the following lines:

```
[SCAN_ORDER]
```

```
1 = SHOW <LDRAWDIR>Parts
2 = HIDE <LDRAWDIR>Parts\s
3 = HIDE <LDRAWDIR>P
4 = HIDE <LDRAWDIR>P\48
```

These lines indicate where MLCad should look for parts (within the LDraw folder in Parts, Parts\s, P and P\48). If you download the full unofficial file package and extract it in C:\LDraw\Unofficial, you will need to add the following lines to make these parts visible to MLCad:

```
5 = SHOW <LDRAWDIR>Unofficial\Parts
6 = HIDE <LDRAWDIR>Unofficial\Parts\s
7 = HIDE <LDRAWDIR>Unofficial\P
8 = HIDE <LDRAWDIR>Unofficial\P\48
```

The next time you open MLCad the parts contained in the Unofficial folder will be included in the parts tree. However, they will only be available to MLCad! That means that if you wish to render the file using a tool like LDView you will have to include the unofficial parts inside the MPD file of your construction. This can be done using a tool like MPDWizard[1] as described in the second part of this tutorial[2].

## LSynth: flexible parts

In the previous part of this tutorial we saw how to generate a simple belt with the Belt Generator which is included in MLCad. However, this tool can't be used to generate more complex belt configurations or to generate other types of flexible parts. To this end LSynth was created by Kevin CLague. This tool can be used directly, but it is easier to use it through the MLCad interface.

If you have installed the complete package of LDraw tools available at LDraw.org[3] in all likelihood MLCad is correctly configured for LSynth. In case you can't find LSynth, you'll need to edit the MLCad.ini file to tell MLCad where to look for LSynth. Under the heading [LSYNTH] you will need to indicate the path to this application. By default the path is the following:

```
%PATH =C:\LDraw\Apps\LSynth
```

LSynth allows you to synthesize 11 different types of flexible parts which can be organized in two groups:

### 1) Cable and tube types

These parts are synthesized using constraint parts that indicate their location in an LDraw file. The most important one is LS00.DAT “~LSynth Constraint Part” [Fig. 1]. This part is used to indicate where a flexible part starts and finishes as well as any intermediate points. Additionally, the ridge of the piece is used to indicate the direction of the width of the cable.

This group includes the following types [4]:

```
ELECTRIC_CABLE
FIBER_OPTIC_CABLE
FLEX_CABLE
FLEX_SYSTEM_HOSE
FLEXIBLE_AXLE
PNEUMATIC_HOSE
RIBBED_HOSE
```

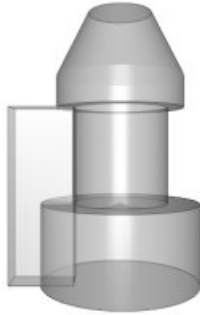


Figure 1 Figure 2

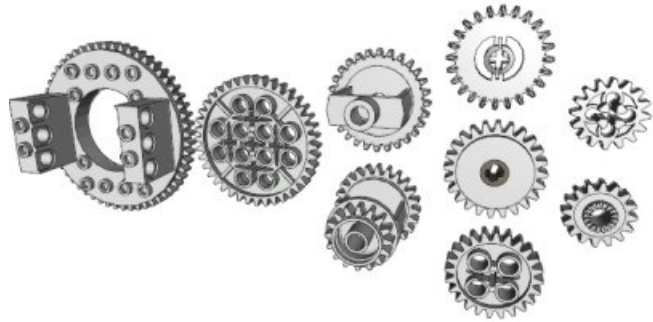
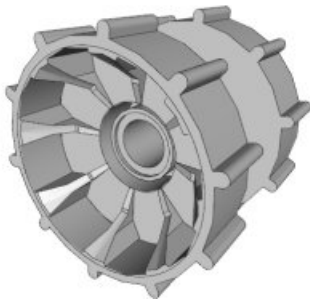


Figure 3 Figure 4



Basically they are all synthesized in the same way, but in the case of the FIBRE\_OPTIC\_CABLE there is a part to draw the start of this cable (LS30.DAT – Technic Fiber Optic Cable – large end). The same is true for the end of the FLEXIBLE\_AXLE (LS40.DAT – Technic Axle Flexible – end piece).

## 2) Belts, treads and closed chains

This group of parts is defined with the help of the elements around which they are placed. This means there is a large selection of gears and pulleys to choose from.

CHAIN (gears)  
 PLASTIC\_TREAD (gear)  
 RUBBER\_BAND (pulleys)  
 RUBBER\_TREAD (sprockets)

The helper parts can be divided into three groups:

- Gears [Fig. 2] (73071, 6573, 4019, 6542, 3648, 60C01, 3650A, 3649 y 2855)
- Sprocket wheels [Fig. 3] (32007)
- Pulleys [Fig. 4] (3736, 4185, 2983, 4265A, 4265B, 4265C, 3713, 2736 y 50)

In the case of the gears you need to be careful to select which parts you choose as guides since not all gears of the same appearance work (of the several types of Crown gear that exist only one – 4265A –

works whereas 4265B doesn't). Something similar happens with the Technic Bush ½ (You can use 4265A, B and C but not 6577 or 32123).

## Using LSynth

In order to use LSynth inside an ldr or mpd file you need to insert a number of commands which LSynth will recognize and interpret to synthesize the parts according to the specifications. The minimum LSynth command block looks as follows:

```
0 SYNTH BEGIN type colour
guide
guide
0 SYNTH END
```

In the type field you need to indicate which of the above mentioned flexible parts you wish to synthesize (CHAIN, ELETRIC\_CABLE, ...).

The colour field indicates the colour of the synthesised part. The number corresponds to the colour numbers used in LDraw. In MLCad you can easily see these numbers clicking on the M in the colour bar and placing the pointer over the colour of your choice. In order to edit an LSynth command you can simply double click it.

The filed guide corresponds to the guide or constraint parts that will mark the path of the flexible part as well as its horizontal orientation. Additionally you can add commands to control the path of a

Figure 5

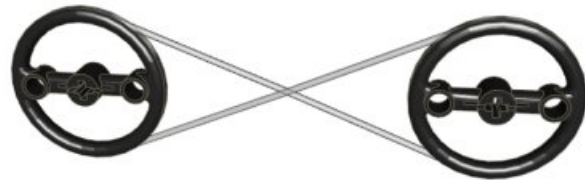
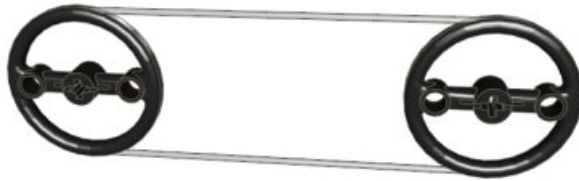


Figure 6

belt/tread/chain part more precisely.

In order to synthesize a cable or tube, you simply need to insert the appropriate LSynth commands into the LDraw file. In MLCad this can be done through an icon in the "Expert" bar or through the menu "Extras > LSynth > Add Command...". From the drop-down menu in the window that opens you need to select the type of part you want to synthesize, after which three lines are automatically added to the file. Apart from the SYNTH BEGIN and SYNTH END lines mentioned before the line SYNTH SHOW is added. Parts included after this statement are supposed to stay visible after running LSynth, but this behaviour appears to be malfunctioning. In order to see the guide parts after running LSynth you will need to go to "Extras > LSynth > Show all" or the corresponding icon in the extras bar.

After inserting the necessary guide parts between SYNTH BEGIN and SYNTH END, taking great care that the parts appear in the order LSynth should handle them, you simply need to run LSynth (either from the corresponding menu entry or clicking on the icon). MLCad will ask if you want to save the changes you've made to the file in case you haven't saved it after the last modification, after which

LSynth will run. Since LSynth really is a command line tool, you will very briefly see a window with black background executing LSynth and then the flexible part will appear in your file. If for some reason the result isn't what you hoped it would be, you simply need to reopen the file you are working with without saving the changes or erase everything that appears from the line SYNTH SYNTHESISED BEGIN till SYNTH SYNTHESISED END.

In the case of belts, treads and chains it may be necessary to include additional commands to get the desired geometry. By default, LSynth will connect the guide parts (gears, pulleys etc.) counter clockwise and trying to connect all the guide elements inside the flexible part. When connecting two pulleys the default result will be what you can see in figure 5. However, if you want to get a shape like figure 6 you will need to inform LSynth of this change. There are three commands that can help you do this: CROSS, OUTSIDE and INSIDE.

In order to get the result you see in figure 6 you will need to put the left pulley in first place, then inform LSynth the belt needs to CROSS, place the second pulley and again indicate a CROSS: the CROSS command always comes in pairs. The same result

Figure 7

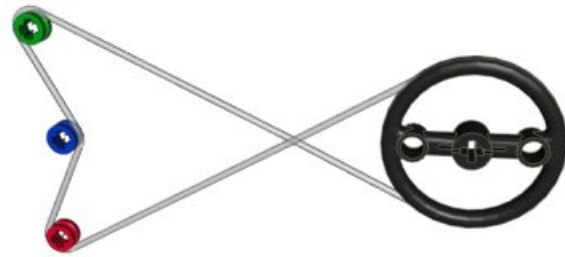
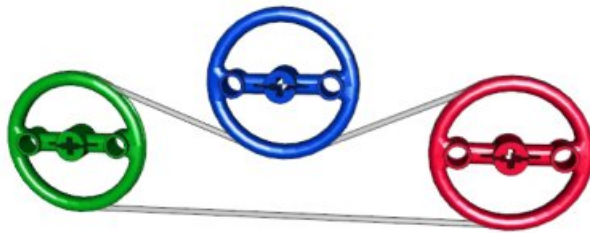


Figure 8

may be obtained using INSIDE and OUTSIDE. These two commands always appear in pairs as well. The sequence of elements would be: pulley, OUTSIDE, pulley, INSIDE.

When there are more than 2 pulleys things get a little more complicated, but the logic is the same. In order to obtain the result you see in figure 7 the lines need to be placed in the following order: green pulley, red pulley, OUTSIDE, blue pulley, INSIDE. Just like a belt is a part without a beginning or an end, this sequence can start at any point as long as the order of the lines doesn't change.

Keeping this in mind, would you be able to write the sequence for figure 8? [5]

#### Bibliography:

LEGO® Software Power Tools, chapter 7 "LSynth: A Bendable Part Synthesizer" por Kevin Clague, edit.Syngress.

"Setup and tutorial for running LSynth through MLCad" <http://www.holly-wood.it/lsynth/tutorial-en.html>

Ldraw.org

[1] <http://www.pobursky.com/print.php?sid=33>

[2] The second part of this tutorial appeared in HispaBrick Magazine 002 which is only available in Spanish. However, the tool is very intuitive. If you wish to include unofficial parts in an MPD it is best to first extract the MPD using the second tab and then create a new MPD using the option "Choose official files over unofficial files". After creating an MPD including files with this tool you may wish to open it again in MLCad and change the order of the models (go to Multipart > Model Sequence) so that the unofficial parts and sub-parts are at the end of the list.

[3] <http://www.ldraw.org/Article126.html>

[4] There is an eighth part type in the LSynth dropdown menu named RIGID\_HOSE, but it appears this cannot be used to generate flexible parts.

[5] Red, CROSS, black, CROSS, green, OUTSIDE, blue, INSIDE. ■

# The LDraw system of tools

## A short note about LDraw and some of its tools

By Jetro

**A**s we have just seen, MLCad isn't the only tool related to LDraw, although it is probably the most popular one. It is only one of the available CAD programs for LDraw. There are also tools for rendering LDraw constructions, creating instructions, etc. (MLCad can do some of these things but only in a very limited way)

In order to get a more complete idea about LDraw, let's briefly consider some of its history. Although to some it may seem as if LDraw has 'always' been there, this tool first appeared in 1995, published by James Jessiman. It was a tool written for MS-DOS and created especially to design and reproduce constructions made with LEGO® bricks. Together with LDraw, LEdit was presented: a tool to create parts as well as an initial library of only three parts, brick 2x2, 2x3 and 2x4.

The program was (and is) freeware and James Jessiman allowed others to use it in order to create complementary programs for the system. In 1997 Steve Bliss presented LDraw Add-On which provided a graphical interface to make the use of the existing command line tools easier. Even before that LeoCAD was published, a multiplatform tool that allows building directly in 3D.

Unfortunately, James Jessiman passed away in 1997 at the age of 27. But his legacy continues and grows day by day. Since then many more programs have been added to what now should be called "the LDraw system of tools". Today, LDraw is no longer directly used, but the file format James Jessiman designed is still the basis which allows all these tools to work with the same system. Although the following list is far from complete, the following tools deserve to be highlighted:

**Lugnet.cad** is the forum around which the collaboration for the improvement and expansion of this system is articulated

**MLCad** is the most well known tool for creating LDraw files and allows access to a number of other applications through its interface

**LDview** is an easy to use rendering tool which allows creating 3D images of LDraw constructions.

**BrickSmith** is the first LDraw Cad application for the Macintosh platform.

**LPub** is a tool for publishing instructions based on an LDraw file

**LSynth** is a tool for synthesizing flexible parts

**L3P** translates the information contained in an LDraw file to a format that can be used by POV-Ray, a software tool that can render high quality images. ■



## An introduction to Robotics with LEGO® MINDSTORMS

Robotics mixed with our beloved bricks, can you ask for more?

Text and pictures by Koldo

"LEGO® Mindstorms 10 Years" logo by LEGO® System A/S

Several times I have read in some forums or I have been asked about how to get started in robotics with LEGO® MINDSTORMS. For some people it is something attractive but at the same time it creates respect and fear: will I be able to do something? Or is it something frustrating and will I be overwhelmed?

In recent years, building and programming robots is changing from being an activity only undertaken by professionals to becoming a leisure activity and a hobby for many people looking at new technologies as something different from what a video game offers.

This article is intended for those without prior training in robotics programming who want to build and program their own robots with LEGO MINDSTORMS.

The first step in order to begin building and programming robots is to have a general idea of what a robot is, and what the tasks are that we will have to face in their development. That will be the main objective of this article, which will be followed by other articles that may be useful to have a closer look at building and programming.

### What is a robot?

I was fortunate to be part of the technical jury of the of the FLL(1) qualification trials that took place in Pamplona in November last year. When we asked one of the teams what they had learned during the experience of participating in the FLL, the answer was that now they knew what a robot is. Till then, a robot was a machine with legs and arms that could carry out different actions (androids). Building and programming a robot taught them that a robot can be much more than just that.

You can find different definitions, and one of them may be: A robot is an electronically controlled mechanical device capable of executing various actions according to a predetermined program and interacting with its environment.

But perhaps the best way to learn about what robotics is the hands on approach, building and programming robots. First, let's see what the common elements that are we will find in all robots.

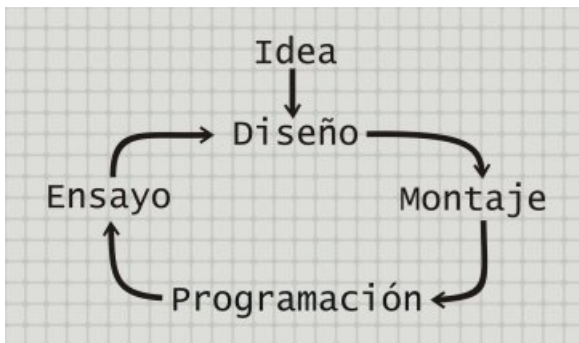


Figure 1

### 1. The sensory system.

One of the basic parts of a robot is the sensory system, and without it, it cannot perceive its environment, and therefore cannot respond to different stimuli. The robot receives information through the sensors, which allow it to measure distances, ambient light, noise levels, temperature...

The basic LEGO® MINDSTORMS (2) set has four sensors:

**Touch sensor:** it is basically a push button like what we use to activate a doorbell (more commonly called "bumper"). It has two positions: pressed and released. It can be used in a mobile robot to detect when it hits a wall.

**Light Sensor:** it measures the level of brightness converting the reading to a value between 1 and 100. Some basic examples are a robot that moves to a brighter area, a robot that detects if a light is switched on in a room and sounds an alarm, or the classic robot that follows a line on the floor.

**Ultrasonic Sensor:** It can measure the distance to an object that is no further than 250 cm. While the touch sensor needs to collide with an object, with the ultrasonic this is no longer needed. It's like the system used by bats to avoid obstacles in the dark.

**Sound Sensor:** It measures the noise level in the environment and assigns a value to the reading between 1 and 100. It can be used in different ways, for example, to control a robot with claps, like some home lighting systems.

### 2. The motor system.

Apart from feeling, the robot must be able to respond to external stimuli, which means, it must be able to do something. In fact, it is possible to design a robot without sensors, but it makes no sense to not be able to do anything, even if only generates sounds.

To be able to do, we can use engines to move, open and close a gripper ... or whatever you want.

The motors of the LEGO MINDSTORMS system are designed in such a way that in addition to controlling the power and direction of rotation it is possible to control the magnitude of the rotation: either in time, number of turns or degrees (with an accuracy of 1 degree). This makes it a lot easier to control the movements.

With the NXT we can connect up to three motors simultaneously.

### 3. The brain.

To respond to external stimuli we must have the ability to make decisions, and that is what the "brain" or controller is for, which in the case of the new system is called LEGO MINDSTORMS NXT.

The NXT has three outputs (to which we can connect up to three motors) and four inputs (which allow you to connect up to four sensors). In addition to this there are other ways to communicate with the environment: a small speaker with limited power that can reproduce sounds, which are very useful in some programs, a display with a resolution of 64x100 pixels through which text or graphics can be shown, and a Bluetooth communication port that allows you to connect with other robots (send and receive messages), mobile phones or even connect with a GPS receiver.

The NXT can connect to the computer via USB cable or wirelessly via Bluetooth connection.

### 4. The skeleton.

Everything mentioned before needs a purpose-adapted skeleton to support it. Depending on the desired goal, it could be a wheeled vehicle, a biped or quadruped, or a brick organizer depending on their color...

Especially in the case of mobile robots, it is important to have a strong structure. A mobile robot that can hit a wall must be built in such a way that is not disassembled during use.

Both the Commercial and Educational LEGO MINDSTORMS sets offer a big enough parts set to start building robots, which can later on be completed further with LEGO TECHNIC parts.

### 5. Behavior.

But, what is a brain without intelligence? Nothing, so through programming we must define how the robot should behave when facing different stimuli.

To this end, LEGO MINDSTORMS offers a graphical-interface software known as NXT-G. Series of blocks sorted according to what you want the robot to do generate a program that is transferred to the NXT, which executes it without the help of the computer.

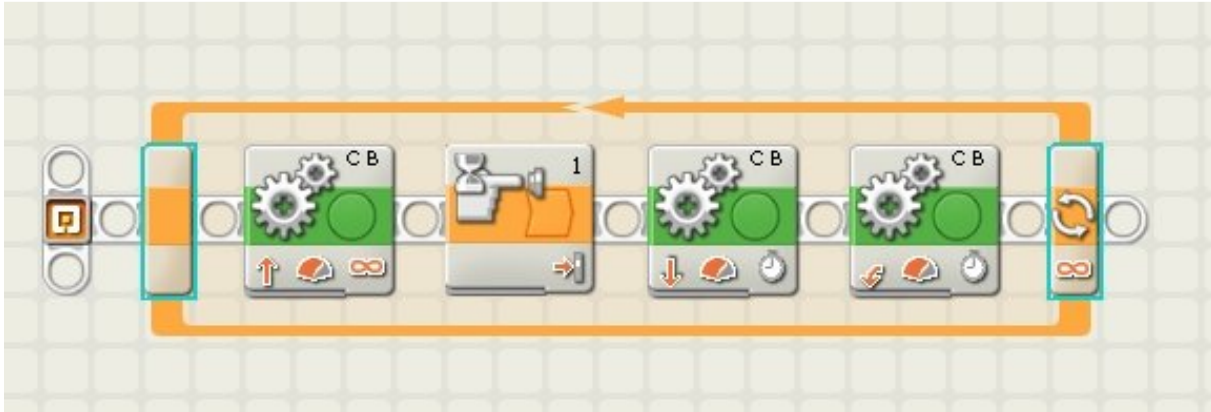


Figure 2

Figure 3



### A step by step example

Our goal is to build and program a robot that moves through a bedroom, corridor... and which when it crashes into a wall or another object is able to rotate and continue after avoiding the obstacle.

The basic process of designing, building and programming a robot is a trial-error-improvement procedure. In Figure 1 you can see an outline of the procedure.

#### 1.- Design and building of a mobile robot.

When building a mobile robot, first of all we must define what kind of steering system we are going to use: a four-wheeled robot, with two steering wheels and two driven wheels, or a robot with a differential steering system, that means two wheels connected each one to a motor and a third supporting point, which could be a ball or a castor wheel. Moving the motors at the same or different speeds will make the robot go straight or turn.

For an easy start it is better to use differential steering. Doing otherwise complicates both the building and programming.

In this case, the best thing to do is to use the Tribot (one of the models included in the LEGO® MINDSTORMS kit).

#### 2.-Programming.

Before beginning with the software, no matter which one, we must write the algorithm. What is an algorithm? It's the step by step description of what the robot is going to do in a human language. In this case it might be:

1. Move in a straight line until you bump into something
2. Go back in a straight line for 1 second
3. Rotate 90 degrees to the left
4. Start the cycle again

Now that we have the algorithm we can turn it into a language understood by the robot. We will do that through LEGO MINDSTORMS NXT-G. One of the characteristics of NXT-G, unlike other programming languages, is that from the very beginning we can write fully functional programs, without the need of a process of prior learning, and it is aimed at all audiences.

A NXT-G program is a sequence of programming blocks attached to a link that simulates a liftarm. The blocks are dragged to the desired position and are linked automatically. In Figure 2 we can see the program for the previous algorithm.

Each programming block has a panel that allows its configuration. In the case of the "Move" block (Figure 3) we can change the speed, the time or if it should do it indefinitely, how to stop ... or if it should simply execute a turn of a specific number of degrees.





Figure 4

In this program, as shown in Figure 2, only two programming blocks and one control structure are needed. One of the blocks (Move) is the one that makes the robot go forwards, backwards, turn ... that is, it makes it move, and the other makes the program wait until the robot collides. The control structure determines the flow of the program. In this case, the Loop block repeats the sequence of blocks inside it again and again.

Once we've written the program, we only need to transfer it to the NXT. You have to turn it on and connect it to the computer via USB cable (the fastest and easiest way) or via Bluetooth (sometimes the configuration is hard and it is slower). In Figure 4 you can see the buttons used for the transfer.

### 3. Testing.

Now that we have a robot with the program, we need to test it and see if it operates in the desired way. Probably the decisions taken concerning the timing of the back up and turning times did not give the desired result, so after testing we should adjust these times to reach the optimal results.

In many cases after testing the robot we should not only change the program but also the assembly: if the robot moves too slowly we may need to change the gear train or the size of the wheels. There may be parts that need to rotate or move more fluently...

### Getting started

For beginners, the best thing to do is to take the guide in the NXT-G software as a starting point. It offers a series of models with their respective programs described step by step. This will help us understanding the different elements that make up the system, the use of the program editor and will help us to acquiring basic programming skills.

Starting from here, one of the recommended ways is to copy other people's creations (books (3), Internet (4) ...) and after building the robot, read the program, analyze it and edit it. Simple copying wouldn't help us to learn.

Another way, more complicated at the beginning, is to develop our own creations. The ideas can be found around us, on the Internet, or models from other people that may serve as a basis for developing our own.

1 FLL: FIRST LEGO® League. An international robotics competition organized by FIRST and LEGO. More information at <http://www.roboteca.org/>.

2 All the parts mentioned in this article are present in both the Retail and Educational version.

3 At <http://wiki.lrobotikas.net> you can find an English bibliography about LEGO MINDSTORMS. In a later article I will write about the most significant ones.

4 At <http://lrobotikas.net> you can find some of the creations of the author of this article and his sons, some of them with step by step building instructions. A very interesting source is <http://www.nxtprograms.com/>. In all the projects it offers only the pieces contained in a Mindstorms set are used and NXT-G is used as the programming language. ■



**Lrobotikas.net**

Robótica Educativa y Recreativa

# Interview Marta Tantos

## Design Manager Concept Lab

By Hispabrick Magazine

Pictures by Marta Tantos

In this month's interview we will enter one of the most unknown departments of any toy company. We will learn how a new set or line is created from the beginning. We will enter the abstract world of ideas and imagination in pure form. We will speak with Marta Tantos, Design Manager of the Barcelona Concept Lab. We are grateful that she has spent this time with us.

Hello Marta.

**Hispabrick Magazine:** How did you start in the company?

**Marta Tantos:** I was in Denmark doing an internship as engineer, when I saw the ad on the paper. LEGO® was looking for a person for the R&D department with a mix of skills of design and engineering. And here I am 13 years later.

**HM:** Have you always been in the same department?

**MT:** Yes. The department has changed name 100 times, but it is the same. From LEGO Futura to Markets & Products today. What has changed is the group within the department where I work. I started in the Play Themes group doing Space, then some Castle and Adventurers, ... to move into the front end group called Volcano. Eventually the different front ends groups were merged to one, which is the current Concept Lab.

**HM:** Can you explain which is the main objective of the Concept Lab?

**MT:** The main goal of Concept Lab is to develop great new play experiences for the builders of tomorrow.

**HM:** How many Concept Labs are there at present in the world? Where?

**MT:** At the moment, the main base of Concept Lab is



located in Billund, and then there are 4 small satellites based in Los Angeles, Tokyo, Munich and Barcelona.

**HM:** Are all the Concept Labs connected and working on the same projects? (we know that you have a very restrictive NDA and you can't talk about concrete projects)

**MT:** Yes and no. It might be that, some periods of time where everyone starts a project with the same brief, but eventually it really depends on the development of the ideas. It is not unusual that Concept Lab works on projects which are at 2-3 different levels of development. And this of course implicates, that different groups work on different tasks.

**HM:** Does TLG give you any kind of orientation about themes, colors, genders..?

**MT:** Usually, when Concept Lab gets a new brief, it does get several specifications to narrow down the scope to work, in order to come with new ideas. But, never so detailed to specify the colors.

**HM:** Can you explain the research method you are using?

**MT:** Research is a very important part of the



development process. The type of research we do depends again on the projects we have in our hands. Sometimes it is a matter of spending few days doing some analysis of the market, the trends, etc. While in other cases, we go much more in depth to understand in detail kids, families and other core targets. To do this, in the last years, we have carried out activities bringing us to the home of those families, which combined with other activities more theoretical have given us a great number of insights. Those insights and consumer needs are very often the drivers and starting point to create totally new experiences.

**HM:** What do you do when you are living with families?

**MT:** Before we come and visit families, there is a process of describing the tools and methods which will give us material to be analyzed. We come with some specific exercises and materials to make the dialogs and activities easier and fun. Big part of the time goes along with the usual family routines. So, if the child is going to ice skating class, we go with them. If friends are coming over for playing dates, we integrate them into those activities. Since we are working mainly with children, there are always some parts focused towards the parents, others for the kids and usually for both together.

**HM:** How can you translate these experiences in something that you can use to develop a toy?

**MT:** It is a long, tough and very inspiring process. We do analyze all our data, observations, results and experiences among the group. The main purpose of these sessions is to find patterns across the material and end up with some needs the kids and/or families have which become important starting point for the concept development phase. All ideas, have some

background behind supporting why the experiences should be relevant for the consumers.

**HM:** Is it difficult for you to try and put yourself in the place of a kid's mind?

**MT:** It is not an easy task. Although we have all been children, we have to remember we are not designing for ourselves. It is therefore extremely important to understand what is to be a child today. Their motivations, their fears, what makes them happy and what helps them learning and growing in a creative environment.

**HM:** How many projects do you develop in a year?

**MT:** Concept Lab develops many projects, but as a natural part of the innovation process quite a few never make it.

**HM:** And if this/these projects turn into a project to a product, how much time passes between the moment you start it and the final customer can buy it in a shop?

**MT:** Everything relates to the type of project. Sometimes it has taken the usual development time if we were totally aligned with the rest of the process of developing products to the market. While others, due to complexity and the strategy, they might take up to several years.

**HM:** Which of your projects is something we can find in a shop today?

**MT:** The latest project which will hit the shops this year has been developed by concept Lab all the way through. This will be a new series of LEGO® constructible games, and it just received one of the innovation awards at the Nürnberg Toy Fair. In most

cases, I might be involved in the very early stage of the development, and eventually there is a project team established around it, which means I personally get out of it to start the innovation process again. So, for the Games case, from the very beginning there was a very professional team that is working very hard to make the best experience!

**HM:** Which steps does a project follow when is accepted by the company?

**MT:** There is a very concrete and specified process for us to follow with many steps. This consists of basically research and exploration of concepts in several loops to get closer and closer to a more finished proposition.

**HM:** Can you request new bricks for your projects?

**MT:** Yes, but only if it necessary.

**HM:** What do you think about the AFOL Community?

**MT:** I am impressed! What can I say .... I am amazed how you guys live the LEGO® experience and values all the way through. It is incredible how a “single” brick has been able to gather sooooo many people around the World to have something in common and to keep on playing not matter the age. It is great seeing how LEGO is part of your passion, and the incredible work you do to spread it.

**HM:** Have you gotten any ideas / techniques from the AFOLs?

**MT:** For me it is extremely inspiring seeing the stuff you all do. Sometimes, seeing how you use the elements, what themes you create, and how you experiment beyond what sometimes is allowed when designing for small children.

**HM:** Last year you attended the Hispabrick Event. What do you think about it?

**MT:** It was a fantastic opportunity to both see what everyone is doing, how you relate to each other, and how you want to make other people participate in your passion, which often absorbs an incredible part of your time. It is great, knowing all the effort from both the people arranging it, as well as the participants coming from all corners of the Iberian Peninsula.

**HM:** Do you think that the Spanish Community has a good level compared with foreign Communities?

**MT:** I think so. It is of course clear, that just by numbers, ... in other countries where LEGO bricks have been present for more years, the amount of AFOLS might be smaller here, but this does not relate to the quality. And let's not forget that if it is important for each of you, that is always the starting point.

**HM:** Finally, some short questions. Did you play with

LEGO bricks when you were a kid?

**MT:** To be honest, .. not so much. I did play with other type of construction sets, but not a lot with LEGO bricks.

**HM:** Your most-liked LEGO Theme

**MT:** That is a very hard question! Castle, Space, ... Creator, and I could go forever!

**HM:** One which you don't like

**MT:** I actually do not remember any now.

**HM:** Your favourite set

**MT:** I guess it is more of a nostalgic thing, but a couple of sets from Insectoids are really nice for me. The biggest set of all, because it was the first set I build when I arrived to LEGO without “any” LEGO background, and therefore an amazing personal challenge. The smaller set because so few pieces made a nice good looking and playful mosquito.

**HM:** Your favourite MOC

**MT:** A day of today, no doubt: THE DOLL (by Arvo brothers) is my winner. An amazing creation, Inspiring, Incredible balance between the finest design and the use of the bricks with a subtle precision. I could look at it hours and hours!!!

**HM:** Do you want to say anything else?

**MT:** Well, big thanks to Lluís and all of you that make the LEGO Brand such an important and emotional place to work. Keep on playing!

**HM:** Many thanks for your time and your answers.■.

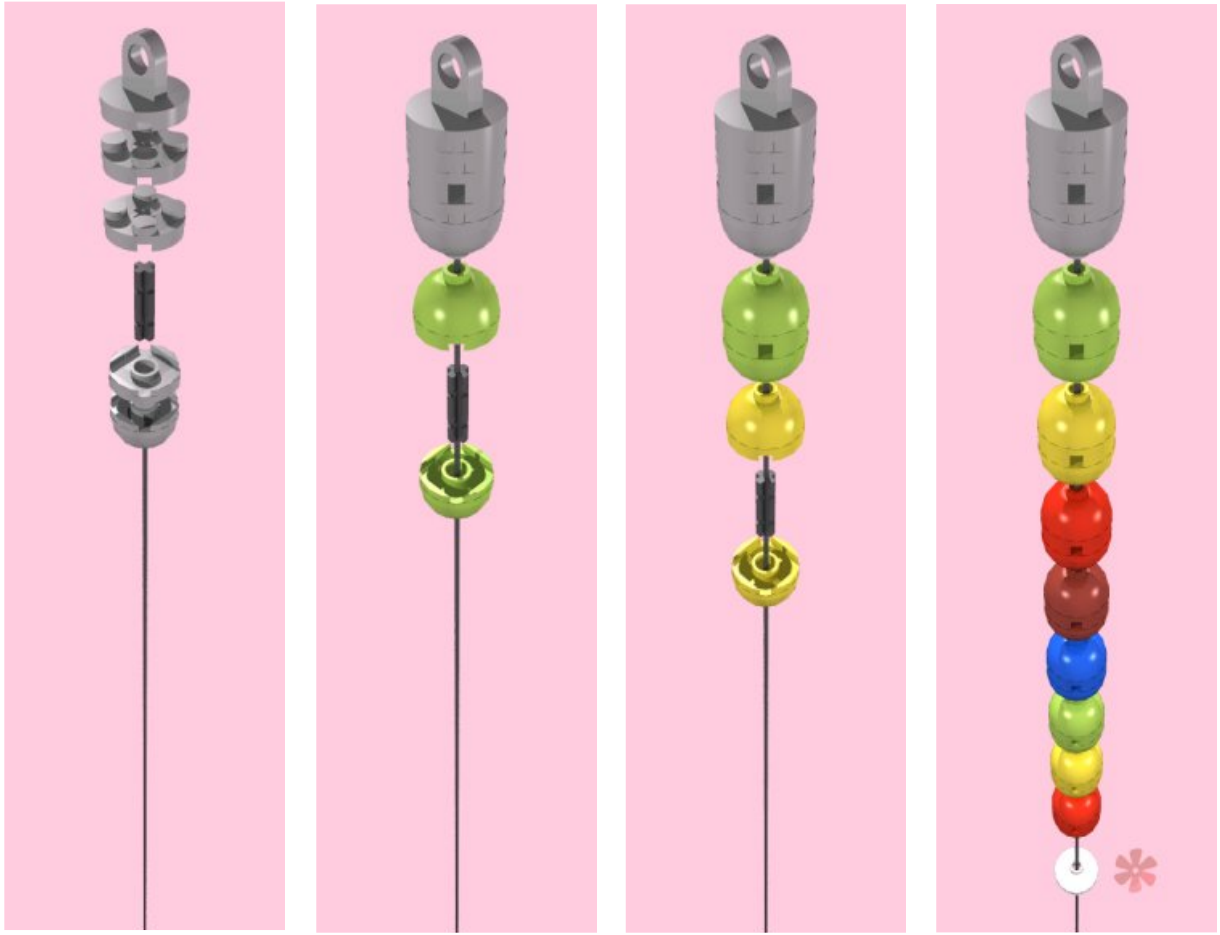


# Dummy

The most complex mechanism designed by a human being in sober state...glups!

By arvo







## II Japan Weekend Barcelona 2009

Text and pictures by Iluigib

On March 7th and 8th, HispaLUG was invited to the II Japan Weekend, in Barcelona. At first, it seemed not the kind of event where a LEGO® exhibition would fit, but in the end we realized that there's some connection between otakus (manga and Japanese culture fans) and AFOLs.

We arrived on Saturday, 9:00am, ready for arranging the exposition. We were 5 AFOLs, bringing Star Wars™, Indiana Jones™, Spiderman™, Batman™, Mindstorms® NXT and modular building sets. We presented the Medieval Market Village set, and its many details were greatly appreciated. And we also had some of car\_mp's great MOCs: Bender and Zoidberg's heads, and a custom R2-D2.

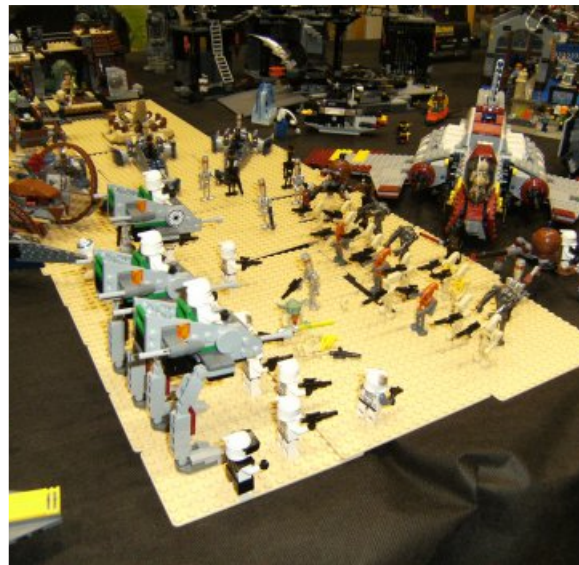
The event opened at 10:00am, and a steady flow of visitors began. Many of them were weirdly dressed by our standards. Some of these disguises made us laugh. But when they started to look at what we were showing, people started to gather around the stand.

Zoidberg and Bender's heads drew a lot of attention. Most people were attracted by the big heads, and then they came closer to see the rest of the



exhibition. Once they were at the stand the visitors began to look at Star Wars ships, or Spongebob Squarepants minifigs. I was surprised by the success of the Spongebob Squarepants set. It was just a set with three minifigs, but it created a lot of excitement.

The modular building sets also attracted a lot of attention, especially from female visitors. The Café Corner, Market Street and Green Grocer sets were



joined together. I imagine that so many details, and the fact that they can be played with like dollhouses (one of Japan's many culture icons), was the key for their popularity. The popularity of the Star Wars sets goes without saying. We all know how appealing this line is and whatever you show, it's a winner. In addition to a couple of UCS's - a Snowspeeder and a Y-Wing - we brought a new-for-2009 set based mini diorama about a droids vs clonetroopers battle.

Comic heroes Batman and Spiderman had their own place too. There were many people who were interested in buying these sets which, unfortunately, have already been discontinued. There was a Mindstorms demonstration, with the Alpha-Rex and a

test vehicle. Many visitors didn't know about this line, and were surprised about all the things this powerful robotics tool is able to do.

Satanspoet and Dirty were so kind to bring HispaLUG, Hispabrick and Hellfreak bookmarks. This is a good marketing tool, and it was greatly appreciated.

On Sunday, at 7:00pm, we started clearing up, knowing that many visitors had discovered a new world. We hope to see them soon in our community. ■



# Living with an AFOL

## Advantages and disadvantages that our dear ones see in our hobby

By car\_mp from the opinions gathered from the HispaLUG forum

### ADVANTAGES

While we are building we don't bother others

We can distinguish more colours than a normal man

It's easy to find gifts for us

Building together is fun

It is a healthy vice

While we are building we leave the TV free

It's better than TV and computers for our children

You can practise it with bad weather

It's a creative hobby that our children can learn from us

We keep our construction area dust free



### DISADVANTAGES

LEGO® tends to expand and occupy all the space available

You can find parts in the most unsuspected places

It's an expensive vice...a very expensive vice

We are always visiting the toys section of the stores

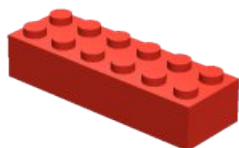
We use any type of container to order our bricks, even the food containers

The constant trips to the post office

We do not take care of anybody or anything while we are building

The parts make a terrible noise when we are building at night

We look with insane envy at children with LEGO boxes in their hands





## The LEGO® Pirates Brickbeard's Bounty

Boardiiiiing!

By Iluisgib

Pictures by Iluisgib & LEGO System A/S

**Set:** Brickbeard's Bounty

**Number of Set:** 6243

**Pieces count:** 592

**Includes:** Pirates 4, 2 Soldiers, Daughter of Admiral, Mermaid, monkey, parrot, shark, 3 guns and pot.

**Recommended Retail Price:** € 89.95 (USD 99,99)

After thirteen years without landing in the catalogs, pirates are back to our universe, with new models, but reminiscent of those of yesteryear.

I will not do a thorough introduction because in the last number of Hispabrick Magazine, our colleague Javier Campo published an extensive report of this line. I will just point out the different pirate ships that have appeared during the first stage of the Pirates line.

In 1989 the Barrakuda Black Seas appeared, the first pirate ship. It stood out because of the number of minifigs (8) as well as due to its colorful design. The second boat of the saga was the Skull's Eye Schooner. This boat was very different from its predecessor in its color, starting with the sails (from white - red to white - black) and continuing with the contour of the boat where the mix gray - black - yellow disappeared, which became a combination of red - black - white. Finally in 1996 the Red Beard Runner appeared, with a slightly more simplistic and less colorful design. It was the end of the pirates' saga, which disappeared the following year and has popped up only with some re-editions at the beginning of this decade.

### The model

I got this model in a slightly special way. It was one



of the sets brought to the last Hispabrick by Jan Beyer, to show the new 2009 sets.

The building experience was also different since it was in the middle of the event, something special that made me dream. I must also admit that I had to build with some speed (though not excessive), which prevented me from enjoying it 100%. But as you can guess, I will not complain ...

Upon opening the box I found the bags with the bricks (numbered for ease building), the hull of the boat, sails and two instruction booklets. As a curiosity, I was surprised that one instruction booklet is read horizontally and the other vertically. I understand that it is because in the first booklet you find the instructions for building the hull of the boat, so it is best to have landscape images.

### Assembly

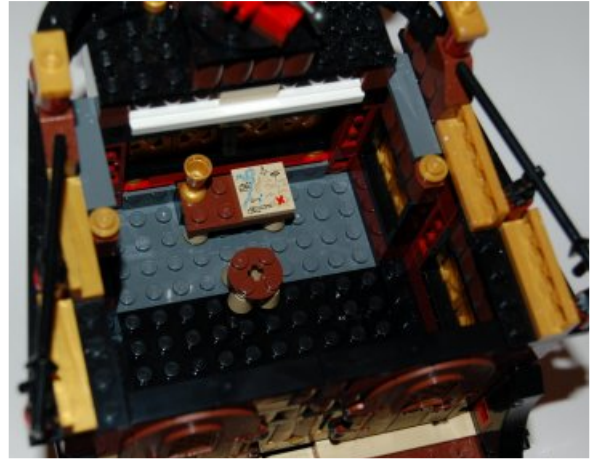
The assembly of the hull is quite simple and, in my opinion, a little weak at its center part. The pieces of this part are connected with 2x4 bricks below and from above they are fixed with the plates and other parts of the railing and the bottom of the boat. During assembly, it broke into pieces several times. It would have been useful to add some holes in the mould for

technic pins (as in the sides, where there are holes and they are used) and give more consistency to the set.

The figurehead is a mermaid with a sword, which gives personality to the boat. Above the mermaid there is a mast holding a sail that is attached to the mast head. This assembly is tilted to adjust it to the bow.

At the base of the hull, 4 receptacles are mounted for 4 cannons (but the set only has 2) and in addition, there are also some boxes to store ammunition. Once the rail is mounted on both sides of the ship, there are four holes where the cannons come out. Each hole has a lid. The cannons are hidden from the outside view of the ship. When the guns have to be used, they have to be pushed forward and then, the lids are lifted. What is also curious is the detail of the gateway where the hostages are pushed into the sea.

In the stern of the ship is the cabin of Captain Brickbeard over what would be the warehouse. Although it is not implemented, you can guess there's an access to the warehouse behind the stairs that give lead to the cabin.. It is very well done and designed in an appropriate size, looking at the



size of the boat. It has two entrance doors and windows at the stern, port and starboard. The color of the windows is very striking (yellow - gold) and the details that make up the outside give a very realistic touch (on the stern there are two crossed swords and a waving flag). The back wall can be opened to get access to the cabin without having to open the roof. The interior of the cabin is a bit poor and limited to one table, a stool, a glass and a map. A bit more decoration (a small closet or a barrel of rum for the exclusive use of the captain) would be appreciated.

The helm and the stern railing are mounted over the cabin, where there is also a cannon that allows you to fire at any boat which tries to pursue Barbabrick. In this area there are many details in gold, mixed with brown and dark red, which is very nice.

The ship is complemented with a blue boat, with which two soldiers are trying to recover the treasure and rescue the daughter of the admiral. The boat is fairly simple, but it has a small oil lamp, which proves once more that the designers have taken care of all the details of the set.

The two main masts have the same design. They have a small crow's nest to which a pirate can climb with the spyglass to observe the horizon. The mast

of the bow has a net, to avoid any prisoner escaping. Atop the stern mast is the dreaded pirate flag, indicating that the ship's intentions are not friendly.

Like any pirate ship, there is a monkey, in this case with a banana. The set wouldn't be complete without captain's parrot. I was surprised when i saw the parrot because it is injected with two colours. Rather than print the plumage with pad printing, the parrot has its own colours. As in reality, there won't be two identical parrots from now.

To finish off, there is a new shark piece, much bigger than the previous one. Although it seems that the shark is designed for a younger age group, it is done in his way with intention. If you open the shark's mouth, you can "eat" a minifig, which fits inside. In this way, it's really dangerous for you to walk down the catwalk to the sea ...

The shark fin is designed to fit a minifig and go for a "ride" with it...

### The minifigs

There are four pirates. The first is Captain Brickbeard, with his wooden leg, his eye patch, hook and his hat with pirate emblem. The other three pirates have their own personality and clothes.



The two soldiers are dressed with the Governor's uniform, but each one has his own hat, which reveals his rank. One of the hats is pad printed in two colours and it is a new mould.

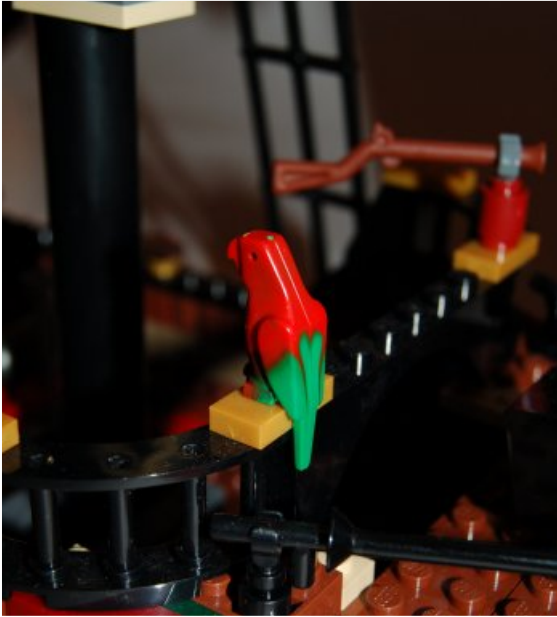
The admiral's daughter has two expressions on her face. She's dressed with a skirt instead of the typical leg (it is a decorated slope).

The mermaid has the typical oyster shells as a bra. The tail is also decorated and she has two expressions on her face as well. In all the minifigs both sides of the torso are decorated. This is something we greatly appreciate,

especially because they have avoided the (increasing)use of stickers.

#### The set

You can see that the designers have put a lot of affection in the design of the boat. Each of the parts of the ship has some small details, which really makes you enjoy the building. The combination of colours is quite different from boats of yore, which had a more "toy" colour scheme, because various shades of brown, maroon, black and gold are used. The use of golden colour bricks for the decoration is very nice.



The set is very playable. It has the right minifigs to recreate a boarding to rescue the daughter of the admiral. Together with other pirates sets launched in 2009, you can build a very convincing pirate environment.

Let me highlight the shark. At first I was surprised about its size (I thought it was exaggerated). But after some days seeing that its voracious appetite allows it to gulp minifigs, you end up really liking it... Retrieve the Pirates line has been a success, and when you look at the design of the ship, it is confirmed. Now I only hope this won't be a brief return and we will have pirates for a long time!

Thanks to:

Jan Beyer, LEGO® Community Development Manager for provide us this set.  
LEGO Iberia SA, Joachim Schwidtal, Rosa Seegelken and Pablo Requejo for the official images. ■



## Alternative models: 7671

One more issue trying to show one of this toy's main values, the possibility of developing the imagination regardless of the number of available bricks.

By car\_mp

Pictures by LEGO® System A/S & car\_mp

**Set:** 7671 MT-61 AT-AP Walker

**Line:** Star Wars

**Pieces:** 392 pieces

**Price:** 44.95 € (USD 39,99)



In this issue we have a look at a set of the Star Wars™ line, more specifically the line of the last trilogy. It is a Republic Army walker, certainly the predecessor of the AT-ST used by the imperial troops in the classic trilogy. Let us take a closer look at what this set provides:

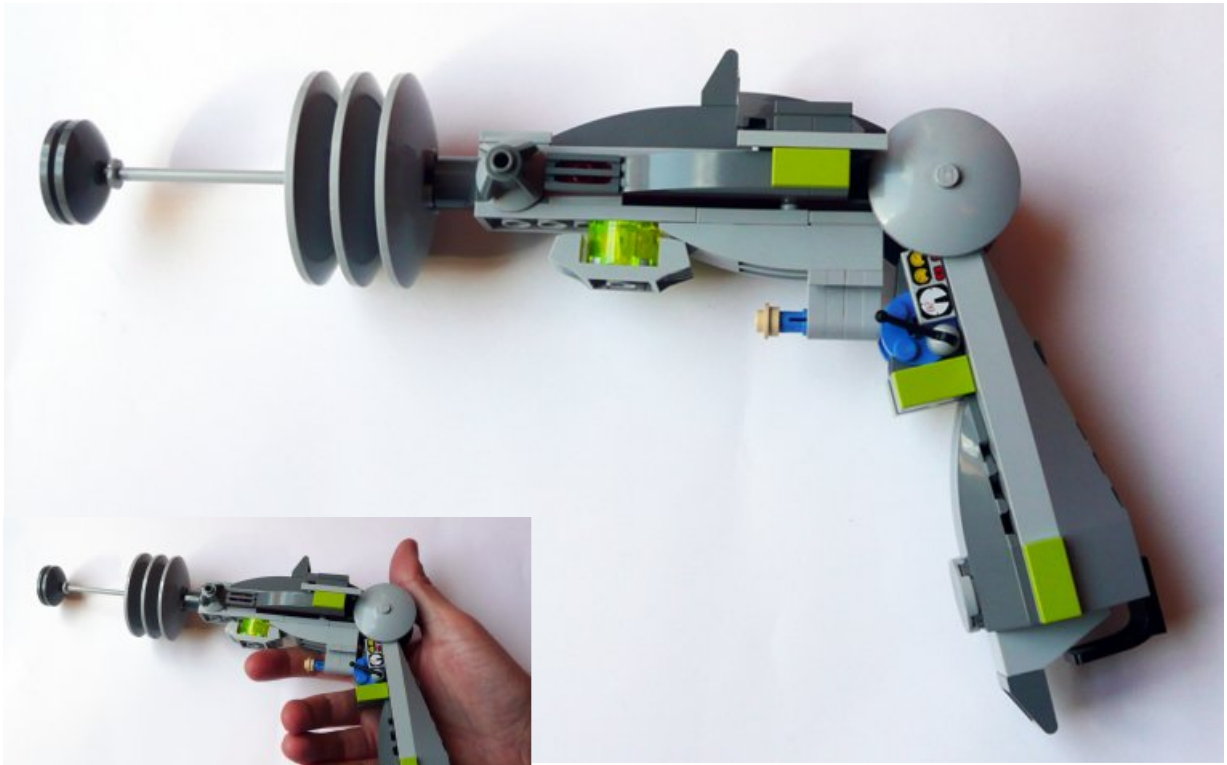
**Comments on the official model:** we must point out that most of the bricks in the set are gray (in its two most popular colors) and it does not have a single classic brick. Yes, you read it, not a single classic brick, it includes plates, slopes and some modified brick, but no "old fashioned ones", none.

The model is built with ease and is very playable. Two clones are included which can sit either inside or net to the top cannon. As a curiosity, it has a third foot that adds stability when the set is static, because due to its large head it tends to tilt forward.

**Alternative models:**

**Blaster:** Taking advantage of the large number of "radar dish" and "slopes" I tried to make a real size laser gun, one of the first constructions that every child tries.







**Spaceship:** Using the only three transparent bricks the model contains, I tried to make a spaceship. One minifig can be fitted inside

**Crab:** Again the "radar dish" marked the inspiration for this model, due to the variety of articulated parts the result is close to what we intended. I hope you enjoyed it. Till the next issue.

Acknowledgments: Jan Beyer, LEGO® Community Development Manager for the sale of this set. LEGO Iberia SA, Rosa Seegelken Joachim Schwidtal and the sale of official images. ■





## Great creators of the world: Steven Marshall

Known worldwide for his LEGO® cars, this month we bring to this section this fantastic British builder.

By Hispabrick Magazine

Pictures by Steven Marshall

**H**ispabrick Magazine: Name?

**Steven Marshall:** Steven Marshall

**HM:** Age?

**SM:** 29

**HM:** Nationality?

**SM:** British

**HM:** What do you do normally?

**SM:** Machine operative



**HM:** When did you first start building with LEGO®?

**SM:** I have been building LEGO since a child, around 1985 I received my first set for Christmas. My first memory of LEGO was when my older brother had the Basic building set (740). Which sparked my interest.

I was very much into Technic at a young age and really only ever built with these bricks which I think helped with more complicated ideas and over coming sololutions. I feel this got me to where I am now with my building style and skill, always challenging myself to come up with new and creative ideas. At around ten years old I developed a fully functional mechanism for landing gear on aircraft which I display in my gallery on Brickshelf.

This is where me and my brothers first forged our own LEGO language. We called 1x1 brick's One-ers and 2x2 brick's two-ers, fat their-ers which are 2x3 brick's. We called plate's, smoothers and loads of bizarre names for virtually every part available. We could produce a Thesaurus of our LEGO language.

**HM:**Your first set?

**SM:** As a Christmas present my first set was the Basic building set (550). Me and my twin brother always received LEGO as a joint gift and we would

always built together.

**HM:** And your last set?

**SM:** One of the Indiana Jones sets

**HM:** Your favourite commercial LEGO building theme?

**SM:** Creator. Though I don't buy the LEGO to build the set's, I feel the Creator line offers the parts I like to work with. I really like how the Creator series looks and reminds me of the Model Team series which was my favourite theme as a child.

**HM:** What is your favourite LEGO element and why?

**SM:** Brick, Modified 1 x 2 with Grill - A great element for breaking up a plain, smooth surface. I use this technique a lot, adds texture and is useful for details.

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

**SM:** When I was younger I would spend all day building and now it's when I have the time. I only build now when I begin a moc which is usually the weekend. I don't sit there randomly playing about, I only pick the brick's up when I have a subject to work on.



**HM:** What does your family think about this hobby?

**SM:** I think in the past when I was still buying set's as an adult maybe they saw it as a waste of money. But since I've progressed and they have seen the work I produce, they understand it's more then just playing with coloured brick's.

Also now with my recent invite to Billund my family realizes this is more than just a hobby..

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

**SM:** I research the subject, gathering images maybe models of the subject as reference. I mentally visualize the appropriate elements required and which complement the shape's needed to form the piece.

I nearly always start building vehicles at the same point. Building the front wings and then the front end, working from the doors to the rear. Chassis next then interior then finally the roof.

**HM:** Most of your creations are cars. Do you work with the measurements and proportions of the original model or only with visual references from photographs?

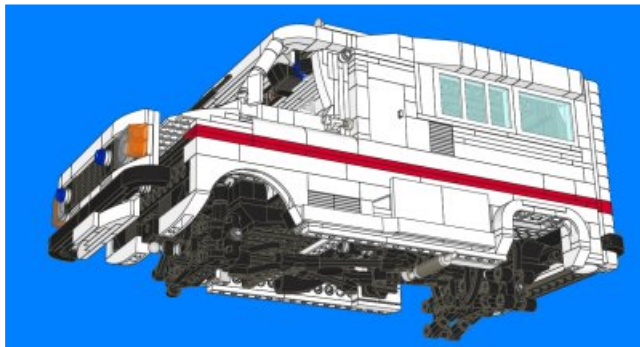
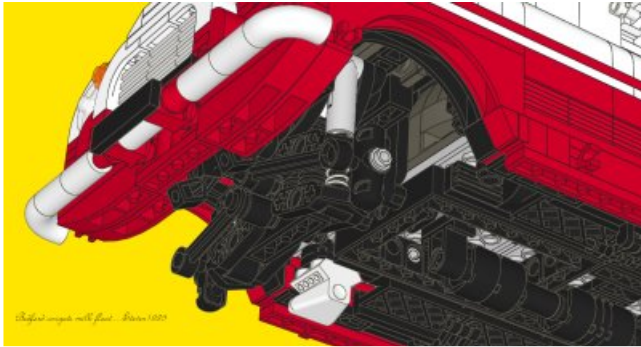
**SM:** As above but sometimes I buy models but mainly work from photo's. I don't work to proper proportions and scale. If it looks right visually I happy..

**HM:** How do you face the process of building your ideas? Do you have a fixed and predefined idea of a MOC which takes form during the building process? Or do you start building with parts directly and that brings you to a final design? To sum up: do the parts define the MOC, or does the MOC decide which parts you are going to use?

**SM:** I can only work with the tools I have in my collection. Bricklink comes in handy for sourcing parts I don't have or need more of. So I pick the best and closest part to represent a shape/part of the what I'm trying to re-create. An example would be the Mini cooper's boot section. I knew I straight away the Triple curved wedge part would be my best choice. Sometimes obviously I'll need to use several parts to create one aspect of my model. If I know that the Triple curve part is going to form the boot section that defines the whole scale/size of the model. Most importantly on say a car/vehicle is the working around the scale of the wheels..

**HM:** How long does take you to get from the idea to the finished model?

**SM:** Models like the Bedford vans took around 2-



3days from start to finish. Depending on the level of detail. I can easily put in 10 hours and then I'll come back the next day with a clear mind and make any adjustments. My twin brother will step in and act as a critic, pointing out any issues he has with the build. It's good to have an honest second pair of eyes to keep you on track.

**HM:** Sometimes you build everyday objects like the pushchair, or come up with the fantastic technique for walls with liftarms. What type of things can keep you away from cars?

**SM:** I don't want to always build cars, doing something like the pushchair requires a different thought process from me. Though the pushchair is a simple moc I like to use interesting and different parts to create a different look. i.e using the tack tracks as a seat lining may not be everyone's first thought but it gives it the right look, and I think it adds to the realism which is what I aim for.

Looking at the amazing arvo brothers work, re-creating every day objects from typewriters to gameboy's inspires me to think out of the box a little. I'm not a one trick pony as we say over here. Working on something different keeps it interesting and helps your technique.

**HM:** Surely you have been told many times that your constructions look like they are real models... for a person who is not familiar with LEGO® constructions it can be difficult to identify them as such. Do you think this is a disadvantage?

**SM:** I just want it to look as close to the real thing as possible whilst using LEGO bricks.

If initially somebody looks at my work and says "hey that's a great looking Mini Cooper" and then on closer inspection say "hey that's LEGO!" all the better. I believe most people have at some point in there lives have played with LEGO and expect a



certain look and finish typical of maybe sets they had as kids. An even someone who has not used LEGO® for years and years will probably understand and appreciate what went into my design. I think if some one does not at first think my models are LEGO, it is a great compliment.

**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?

**SM:** I would not be able to create most of my ideas if it was not for the newer LEGO bricks being produced. Like the slope bricks. These are the key to the look I'm aiming for. The newer bricks offer a greater range of colours compared to what was available years ago. Building realistic objects always look better in my opinion using a darker pallet.

**HM:** Any other comments you would like to share?

**SM:** What got me back into LEGO after years of absence was seeing arvo's work, in particular the Seat 131 as they know he he. I was so inspired by this model that i just had to create my own. This was a huge challenge which and once completed i got the bug back.

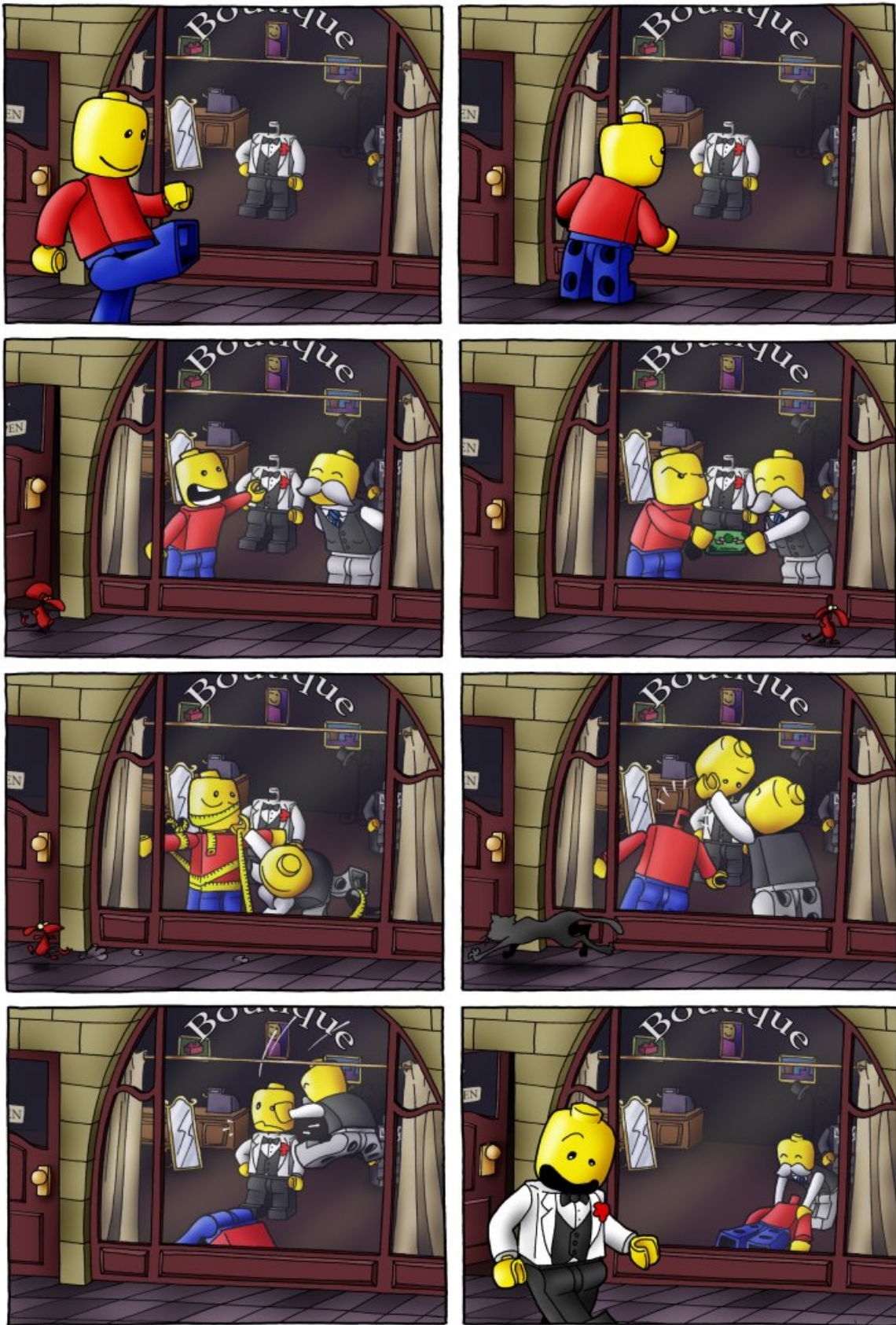
Their level of work is my goal. It's something everyone should have, a goal or a target to work or aspire to.

Thank you very much, Steven.■



# Desmontados

Por Arqu medes



Jesus

# How to collaborate with us

Collaborating with Hispabrick Magazine is very easy, just send an email with your ideas to [info@hispabrickmagazine.com](mailto:info@hispabrickmagazine.com) and we will help you to "build" your article.

If your language is not Spanish, don't worry, we will find a solution. Contact us now!!

## Our team of translators

Alfonso López (Axadder)  
Carlos Méndez (car\_mp)  
Jetro de Château (Jetro)  
Lluís Gibert (lluisgib)  
Noé Ortega Tsuji (Panda)  
Víctor J. Buforn (Gatchan)

## Our collaborators on the Internet

You can find more about our collaborators here:

Arqu medes	<a href="http://debiologoadibujante.blogspot.com/">http://debiologoadibujante.blogspot.com/</a>
arvo	<a href="http://www.brickshelf.com/cgi-bin/gallery.cgi?f=127268">http://www.brickshelf.com/cgi-bin/gallery.cgi?f=127268</a>
car_mp	<a href="http://www.brickshelf.com/cgi-bin/gallery.cgi?m=camp">http://www.brickshelf.com/cgi-bin/gallery.cgi?m=camp</a>
Claus Schioldann	<a href="http://jandf-world.minifig.dk/">http://jandf-world.minifig.dk/</a>
g2bricks	<a href="http://g2bricks.blogspot.org/">http://g2bricks.blogspot.org/</a>
Hellfreak	<a href="http://www.hellfreak.es">www.hellfreak.es</a>
Henry_Chinasky	<a href="http://www.mocpages.com/home.php/5668">http://www.mocpages.com/home.php/5668</a>
Jetro	<a href="http://www.brickshelf.com/cgi-bin/gallery.cgi?m=linmix">http://www.brickshelf.com/cgi-bin/gallery.cgi?m=linmix</a>
Koldo	<a href="http://www.Lrobotikas.net">http://www.Lrobotikas.net</a>
Legotron	<a href="http://www.abellon.net/lswimperial/">http://www.abellon.net/lswimperial/</a>
lluisgib	<a href="http://www.brickshelf.com/cgi-bin/gallery.cgi?m=lluisgib">http://www.brickshelf.com/cgi-bin/gallery.cgi?m=lluisgib</a>

## In the next issue

We will begin with the story of one of the biggest modular construction of our community and Steven Marshall has left us one last gift that you will find in the next issue.

Don't forget that now you can find the latest about the magazine and some surprises on the Internet at [www.hispabrickmagazine.com](http://www.hispabrickmagazine.com) ■



**hispabrick**  
magazine

**004**



hispabrick  
magazine

004



ENGLISH EDITION

ISSN 1989-3698



9 771989 369006 >

Free download from [www.hispabrickmagazine.com](http://www.hispabrickmagazine.com)  
You can buy printed issues only at [www.bubok.es](http://www.bubok.es)  
You will pay only the printing and shipping costs

