

Brick Journal

Issue 6, Fall/Winter 2006

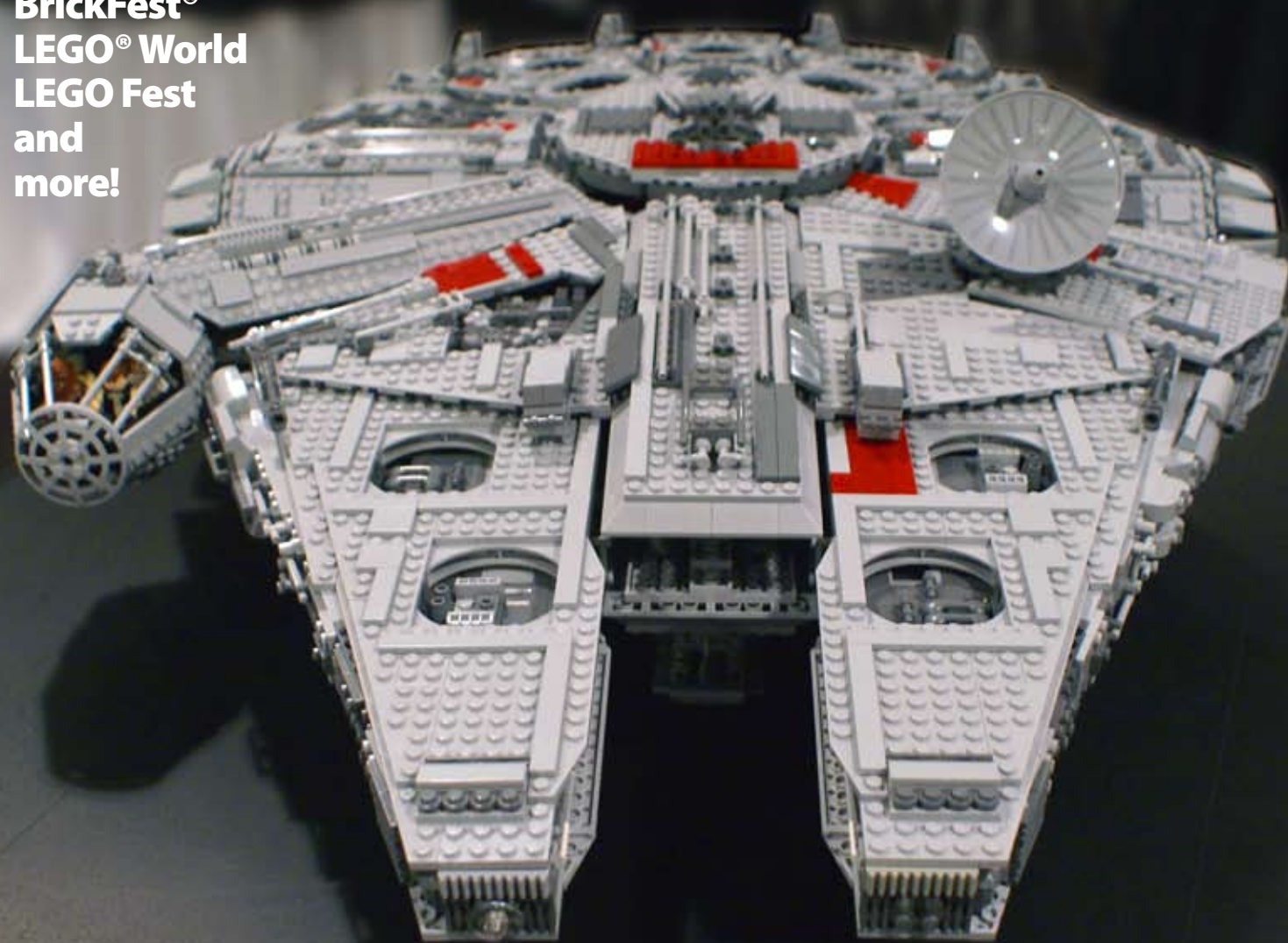
people • building • community

Epic Builder: Anthony Sava

THE EVENT ISSUE

Inside:

BrickFest®
LEGO® World
LEGO Fest
and
more!



Also:
Interviews with
Jørgen Vig Knudstorp,
Steven Canvin, and Knud Thomson
Building Instructions
AND MORE!

Women who
Build with LEGO
LEGO Inside Tour
LEGO Serious Play

Now
in its 4th
Printing!

Build A Firm Foundation for Your LEGO® Hobby!

Have you ever wondered about the basics (and the not-so-basics) of LEGO building? What exactly is a slope? What's the difference between a tile and a plate? Why is it bad to simply stack bricks in columns to make a wall? *The Unofficial LEGO Builder's Guide* is here to answer your questions. You'll learn:

- The best ways to connect bricks and creative uses for those patterns
- Tricks for calculating and using scale (it's not as hard as you think)
- The step-by-step plans to create a train station on the scale of LEGO people (aka minifigs)
- How to build spheres, jumbo-sized LEGO bricks, micro-scaled models, and a mini space shuttle
- Tips for sorting and storing all of your LEGO pieces

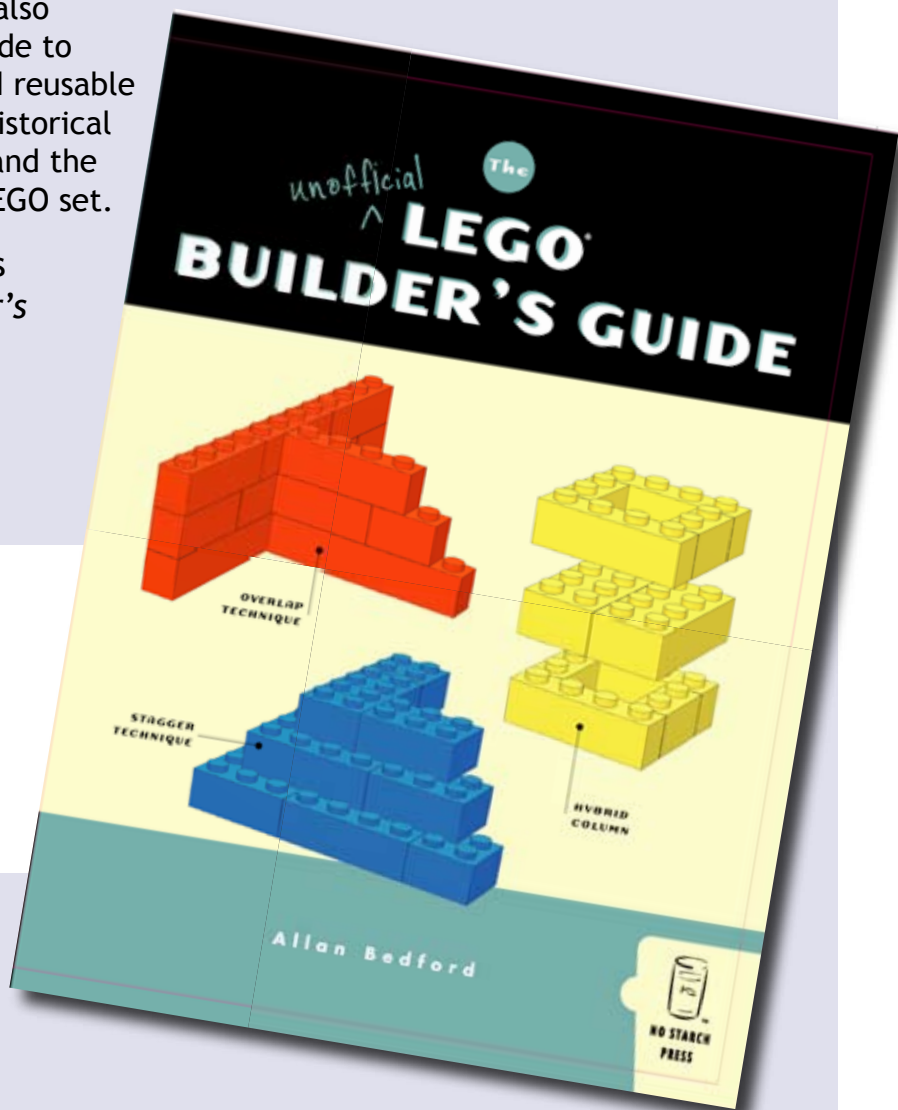
The Unofficial LEGO Builder's Guide also includes the Brickopedia, a visual guide to more than 300 of the most useful and reusable elements of the LEGO system, with historical notes, common uses, part numbers, and the year each piece first appeared in a LEGO set.

Focusing on building actual models with real bricks, *The LEGO Builder's Guide* comes with complete instructions to build several cool models but also encourages you to use your imagination to build fantastic creations!

The Unofficial LEGO Builder's Guide

by Allan Bedford
No Starch Press
ISBN 1-59327-054-2
\$24.95, 376 pp.
AVAILABLE NOW

Available in bookstores everywhere
or directly from the publisher at
www.nostarch.com. Visit the
author's website at www.apotome.com
for more information.



Contents

From the Editor 2

The LEGO Group

Inside Tour 3
2006 Sneak Preview 6
Serious Play 7
Interview: Steven Canvin of MINDSTORMS 10
Interview: Jørgen Vig Knudstorp 12
Four Things You Didn't Know About LEGO Sets 16

People

Interview: Knud Thomsen 20
Epic Building: The Creations of Anthony Sava 25
Female Fans of LEGO 29
It's Been a Long Way: Eric Brok 36
In Her Words: Megan Rothrock 40

Building

Hello NXT! 46
NXTeeny 55
Battlestar Galactica Landram 58
Photographing Minifigs 60
Microscale Car/Bricks for Thought 65

Community

Event Reports:

Ballabio (Italy) 66
Nation Model Railroad Association (NMRA) (Cincinnati, Ohio, US) 68
Freedom Valley Girl Scouts (Freedom Valley, Pennsylvania, USA) 70
1000steine-Land (Berlin, Germany) 72
BrickFest® (Washington, DC, USA) 76
De Post /Belgica 2006 (Belgium) 80
LEGO Fest Turino (Italy) 83
The Collectivity Project (Oslo, Norway) 86
LEGO Fan Weekend (Skærbæk, Denmark) 88
LEGO World (Zwolle, the Netherlands) 90
LEGO Family Days (Billund, Denmark) 96
LEGO Blitz (Potomac, Maryland, USA) 102
Festival of the Masters (Orlando, Florida, USA) 104
Bricking Bavaria (Munich, Germany) 108

Club Reports:

SO937 (Singapore LEGO Users Group) 113

Not Quite LEGO

Star Wars Kubricks 116
Last Word 120
AFOLs Back Inside Cover



7



29



55



86



88

Fall/Winter 2006

Volume #1, Issue 6

Publisher/Editor in Chief

Joe Meno

Photography Editor

Geoff Gray

**Business Manager
and Proofreader**

Carin Proctor

Copy Editor

Allan Bedford

European Bureau Editor

Melody Krützfeldt

West Coast Editors

Todd Kubo

Ashley Glennon

Writers:

Camilla Torpe, Joe Meno, Geoff Gray,
Gary Istok, Melody Krützfeldt, Anthony
Sava, Eric Brok, Megan Rothrock, David
Perdue, Christopher Deck, Jared Burks,
Erik Amzallag, Marco Chiappa, Jeremy
Spurgeon, Jim Foulds, Holger Matthes,
Maarten Steurbaut, Davide Cavagino,
Alex Cordero, Luca Gianniti, Hogne
B. Petterson, Sybrand Bonsma, Diana
Wong, and Greg Hyland.

**Many thanks to the websites
who have serve as mirrors
for BrickJournal:**

www.lugnet.com

www.bzpower.com

www.brickshelf.com

www.peeron.com

www.brickmodder.net

www.rustyclank.com

About the Cover:

*The new UCS Millenium Falcon
is presented before New York's Toy Fair!
Photo by Joe Meno.*

LEGO® is a trademark of the LEGO
Group of companies which does not spon-
sor, authorize or endorse this magazine.
All articles, photos, and art are copyright
BrickJournal Media, LLC 2006 and the
respective writers, photographers, and
artists. All rights reserved.

*All trademarked items are the property of
their respective owners and licensees.*




From the Editor:

It's an interesting time for *BrickJournal*. Not too long ago, I had a handful of staff in the United States working on stories and photography. Now we have a much larger staff with representatives from Europe and Asia. A European Bureau run by Melody Krützfeldt (who can be reached at mel@brickjournal.com) is becoming a very important part of the magazine, providing new insights from overseas.

BrickJournal's involvement with the LEGO Group has grown, too – Where initially we only had some interviews, *BrickJournal* now is getting ideas and requests from the LEGO staff for articles. In fact, this issue features another interview with Jørgen Vig Knudstorp, the CEO of the company. Looking forward, we will be doing more with the LEGO Group to help promote the hobby and the brick.

The biggest lesson I have learned is that I cannot do everything. The reasons behind *BrickJournal* not having a consistent schedule can be traced to me trying to do all parts of the magazine. While I could do assignments and find leads on stories and do layouts on an issue before, things have become too busy for me. Issues began to come out late. The main reason was I couldn't focus the time and attention needed to work on layouts. In short, *I* was the bottleneck that I was trying hard to avoid.

So I made a call for some layout staff, and now have some people willing to help out with the next issue. I will have to step back on design and layout – and that has been a painful decision. But what is important is not for me to leave my imprint on everything, but to allow others to use their skills to help out. *BrickJournal* is supposed to be about the community, and that should be reflected in all parts of the publication.

I don't have all the ideas or solutions to the challenges *BrickJournal* will have, nor should I. But I won't shut down the magazine for that reason. I want it to become better, and that can happen only by being open to change. 

Joe Meno
Editor

P.S. Have ideas or comments? Drop me a line at admin@brickjournal.com. Or go to www.lugnet.com and leave a comment on their forums! I'm open to suggestions and comments and will do my best to reply.



The LEGO Group

Through the Looking Glass

**The LEGO
Inside Tour**



*Did you ever wonder how
LEGO elements were made?
Or how sets are designed?
Or wanted to see the
history of the LEGO Group?
Or wanted to see all the LEGO
parts in use today?
Or go behind the scenes of
LEGOLAND?*

*You **can** at the
LEGO Inside Tour.*



Through the Looking Glass: A Peek at the LEGO Inside Tour

*Article by Camilla Torpe.
Photography provided by the LEGO Group.*



LEGO fans can take advantage of an exclusive opportunity to learn and see the many aspects of the LEGO Group by going on the LEGO Inside Tour.

The Inside Tour has only been in existence for a short time, but already has been deemed a dream trip by those who have taken it. Only four tours have been offered so far, so there only a few people have gone - but there are three more tours set for 2007.

On these tours, there is unparalleled access to the LEGO Group, including meeting LEGO designers and even visits by the leadership team. This is one of many great surprises that happen in the Inside Tour.

The first day of the Tour is an introduction of sorts, starting with a visit with LEGO Designers. Guests can ask the designers questions, but there's also something else in store for the guests... they are invited to participate in a themed building event - so the guests get to build in the largest LEGO toybox in the world!

There's more on the next day. A visit to the Idea House starts things. The House is a closed facility that serves as a museum displaying the history of the LEGO Group, from its start as a wooden toy producer through its shift to a plastic manufacturer and creation of the LEGO brick. During this time, there's also a visit to the Vault that contains a copy of almost every LEGO set ever made. Guests can see sets from the late 50s to the present, and many spend a little time looking for the first set they got as a child.

Presentations are also given about the culture and values of the LEGO Group and its history. The best TV spots and commercials are also shown.

The showroom is also opened to guests, so they get a sneak peek at the sets that are upcoming!

From there, guests visit the manufacturing plant. It produces the thousands of elements needed for LEGO sets. The plant is almost entirely automated! The production of a LEGO element is traced, from the melting of the plastic, to the molding, to the delivery of the elements, to a storage warehouse that holds tens of thousands of bricks and plates and other parts - all done by robots.

The last day of the tour is devoted to LEGOLAND Billund, and guests are treated to a backstage tour of the park, with visits to the Model Builders, technical operations, and light and sound departments. Everyone gets to see how things are maintained and built in the park, and then get to play in LEGOLAND!

Accommodations are at the LEGOLAND Hotel. It is a four-star hotel that is literally a door away from the park. Meals are included in the Tour, so there's no worry about food. Breakfast is at the hotel, while lunch and dinner are elsewhere.

And what have guests said about the Inside Tour?

- *"I was blown away to see and hear information that was private to the company. I came away with a deeper understanding of the LEGO Group."*
- *"We were so excited and surprised when we were given so many nice gifts..the LEGO bags, the chocolates and the lovely LEGO rose were all amazing!"*
- *"A dream! What a great surprise and much appreciated opportunity! I was blown away by the LEGO Groups's generosity!"*

Kjeld Kirk Kristiansen's comments:

"As a company we can learn a lot from our guests, who have a passionate interest in LEGO products. Contact with groups such as these is essential."

You're invited to to be in the next group! The next Inside Tours are set for May 9th-11th, May 23rd- 25th, and June 6th - 8th, 2007. The cost of the LEGO Inside Tour is 9000 kroner (about \$1500 US dollars) and include the Tour, accommodations and meals. Transportation to Billund is not included.

Spaces are very limited, so we hope to see you in Billund soon! 

You can find out more information or make a reservation by writing to: LEGO Inside Tour, Attn: Camilla Torpe, 7190 Billund, Denmark or to LEGOInsideTour@europa.LEGO.com. You can also call +45 79 50 60 70.



The LEGO Group: 2007 Sets

2007 Sneak Preview


International Toy Fair, New York City

Article and Photography by Joe Meno



February 10 was the day the LEGO Group announced a new Star Wars Ultimate Collectors Series set to be shipped in October of 2007: *The Millennium Falcon*.

The announcement was presented at a LEGO Collectors Party that was held the eve of the International Toy Fair. The party was also the place where a contest was announced that will take place in the summer with the Star Wars sets to celebrate its 30-year anniversary!

The party presented other new sets coming for the next year, including Batman, Spongebob Squarepants, Harry Potter, and Bionicle sets. BrickJournal will have an article with more coverage of the new sets coming. Until then, here are some photos from the event. Enjoy! 



Building Teams and Solutions With the Brick: A Look at



SERIOUS PLAY™

The LEGO Group

The power of play is something that has only recently been used in professional settings. The LEGO Group is using bricks and building in training and development sessions, and BrickJournal was able to take part in a demonstration of LEGO SERIOUS PLAY.

Article by Joe Meno

Photos by the LEGO Group and Joe Meno

LEGO SERIOUS PLAY. These are three words that usually are not in the same sentence, but they make up a small but growing part of the LEGO Group. LEGO SERIOUS PLAY stimulates imagination and creativity to enable participants to create new insights and solutions in both professional and personal settings.

This sounds pretty pretentious, but it's not – it is the simple application of some things most adults tend to avoid: building and storytelling. LEGO SERIOUS PLAY uses LEGO bricks as a hands-on medium to build and tell the stories participants have about themselves and their work. By building a model of, for example, an issue, a personal aspiration or a scenario, a participant not only creates a visualization that others can grasp and understand, it creates a point of reference for others to explore and develop. This also empowers the participants to use their creativity, brain power and imagination in a more direct way than in other meetings – LEGO elements become a common language for everyone to use and share.

Children do this effortlessly when they are playing – they make cities with the LEGO bricks they have, and make up stories for the Minifigures that live there. LEGO SERIOUS PLAY is a place where that imagination can be used in a 'grown-up' context. With LEGO SERIOUS PLAY sessions, a group can learn to use each person's imagination to make decisions and develop adaptive strategies to deal with new challenges.

The best way to demonstrate this is to do a session. A LEGO SERIOUS PLAY session requires a trained facilitator and a selection of special LEGO sets. The sessions provide sets for each participant, and the LEGO elements are partly basic bricks and some specialty pieces and Minifigures.

A subject is selected for participants to build, and a time limit to build by. In my session, I was asked to make a model that represented *BrickJournal* – a model that is constantly evolving toward a vision that hasn't yet become crisp and defined. I initially protested building this, because how could I make an unknown into a model? But once I was told, "You have 5 minutes," I ripped open the part bags and began building.

One of the reasons that LEGO SERIOUS PLAY is so amazing is that it takes advantage of the action of building – there is a connection that a person has when creating or building that is unique. People 'think' through their hands when building, and there's a different level of insight that is used when putting bricks together. Part of this is intuitive, but part draws from an individual's experiences, and the time limit forces these processes into motion. The time limit also forces meaning to parts that ordinarily would not have meaning.



A facilitator discusses a model

When I reached the limit, my facilitator told me and asked if I wanted any more time. I actually was pretty happy with what I built – which was a true mess of parts. Unlike what I am used to building, this was a discordant model with rainbow colors and axles hanging out the sides. Two wheels spun in the middle. One on the top, one on the side. A couple of Minifigure torsos were on the top, one with a skull head, one with a smile. Another head was on the base, and a set of Minifigure legs were on the bottom. All of the heads had poles coming out of their tops.

So I was asked to do a show and tell and explain everything.

Storytelling is a very important aspect of LEGO SERIOUS PLAY. From making a story, various scenarios are created, and possibilities are explored. Using a model to play the story out, it becomes easier to see possibilities, including those that aren't obvious upon casual view. It's also safe, so strategies can be given a chance to play out. My story was very improvisational, but enlightening to me, because I gave meaning to all the things I built.

From the axles projecting out, I saw how *BrickJournal* is an outreach medium. From the Minifigures, I got different meetings – the skull represented the staff that went in different directions from the magazine and eventually left. The other parts in color were the diversity of the staff, and the Minifigure legs represented how everyone who is staff is from different walks of life, which got a smile from the facilitator. He noticed a row of slopes in the rear and asked about them, and I stated that there is a little organization in the mag, but not as much as I would like.

We discussed a little more about the model, and I was fascinated at how much it revealed by the design - or lack thereof.

Perhaps the most telling thing was that the model was tall and ungainly – as when I began *BrickJournal*, this model was rather fragile and not too stable. This is something I realized when I was trying to place it in its box – it didn't fit then shattered. This had a lasting impression.


Through LEGO SERIOUS PLAY, I was able to create a 3-dimensional model of what I thought the magazine was, and with that I could see its strengths and flaws in a very immediate and personal way. For groups, this is a great team-communication opportunity, as each person can see new things and bring ideas and solutions to the table. This also empowers participants to be a valued part of the team. The genius of LEGO SERIOUS PLAY is the simplicity of the lessons – from making a simple model, scenarios can be spun, problems can be seen and solutions created, and a group of people become a closer team through building and storytelling.

The core beliefs of LEGO SERIOUS PLAY are:

1. There is vast untapped potential in the people in organizations
2. Those people have the imagination to resolve most serious issues
3. The meetings and techniques used in most organizations do not engage the people who could actually solve the problems they face.

The core strategy of LEGO SERIOUS PLAY is to create a framework to deal with complex issues in real-time (the present – 'right now'). With my model, I was able to see possible flaws just by noticing that the model didn't use many parts and was tall, which is unwise building. Seeing it fall apart when trying to put in the box was an indicator to me.

In the month after I had the session I was able to act on what I learned about the magazine. I gathered more writers and created a European Bureau. While the idea of a European desk was actively considered, the demonstration confirmed to me that there needed to be a strong presence elsewhere from the US, so I quickly acted to make that happen. *BrickJournal* is now much stronger than it was before, and it's getting ready to go to the next level.

All because I built with too few bricks. 

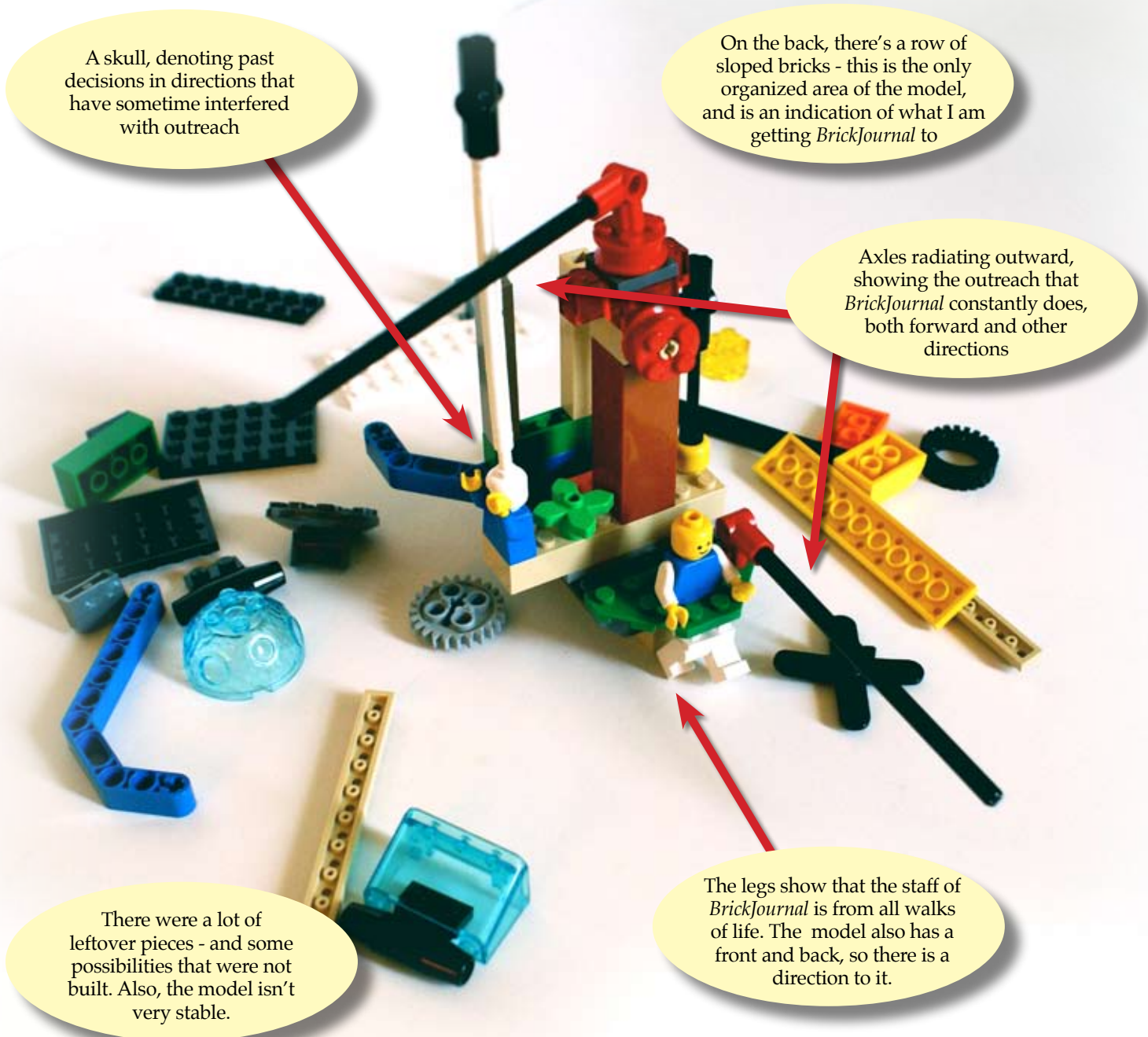
LEGO SERIOUS PLAY is a program that has been used by companies for strategy development, organizational development, innovation processes, mergers & acquisitions and much more. Workshops are available through the growing LEGO SERIOUS PLAY certified partner network that today counts 48 partners in 24 countries, and last 1 to 2 days. You can find out more about LEGO SERIOUS PLAY at their website www.seriousplay.com. Many thanks to Jesper Just Jensen and Anders Foss, my facilitator!



Models are made by groups as well as by individuals

BrickJournal: The Model

While this is not the exact model built for the LEGO SERIOUS PLAY demonstration, this is indicative of what is done and discussed at a session. Craft is not emphasized at all, but creation of a model and a story are. As a result, building ability is not needed. However, imagination is - especially when the facilitator asks about the model!



Developing What's NXT

Last year, the new MINDSTORMS NXT system was released to much fanfare - but before the system reached production, LEGO fans were involved with designing the set and software. BrickJournal talked with Steven Canvin, Director of the MINDSTORMS Development Program, about how the LEGO Group and the fans worked together.

Article by Geoff Gray



Steven Canvin with Alpha Rex, the 'mascot' of the MINDSTORMS NXT.

BrickJournal: So as the leader of the MINDSTORMS Development Program, can you give us a little insight into how the program came about and what your expectations were going into this?

Steven Canvin: Our experience with the first generation of LEGO MINDSTORMS, centered around the Robotics Invention System and the RCX microprocessor, was that an enormous community evolved after its launch, with thousands of passionate followers, not only among the children, who were the target group but also a sizeable amount of AFOLs, who literally split our various Robotics sets to pieces, hacking and cracking the hardware, software and firmware (the software for operating the RCX microprocessor), baring it all to the world. Since its launch in September 1998 numerous alternative programming languages have been created as well as home-made sensors for the set. Around 40 books have been written about LEGO MINDSTORMS by hardcore fans and technical writers, thousands of truly ingenious robotic inventions have been created, and I can only say that the buzz around LEGO MINDSTORMS is mind-blowing. I am awed by the zeal of the users out there and we have truly been inspired by them when considering how to continue the development of LEGO MINDSTORMS. We realised that the potential of actually putting all this invaluable insight and knowledge to good use was really big.

Hence the MINDSTORMS Developer Program, which came in succession to a 14-month process where hardcore users were invited to participate in the development of the new generation of LEGO MINDSTORMS. First, we created the MINDSTORMS User Panel, MUP for short, with 5 so-called MUPpets on board, working close with the development team, giving inputs on all aspects of the product. Later, the MUP grew to 13 MUPpets, each active contributors to the community, through building great inventions, creating programming languages, FLL and RoboCup, hardware and writing books.

The MUPpets added their knowledge, insight and creative input

to the product during development, collaborating with the team, and it was this synergy we hoped to maintain when we decided to create the MDP and invite 100 users inside for the beta-test. If we could have a quarter of the same kind of ping-pong and feedback with this larger group as we'd had with the MUP, we'd count it a great success.

BJ: The LEGO Group received over 9,000 applications for helping out. We know that this was way more than you expected. How did you manage to sift through all of the applicants and narrow down the team? What were some of the things you looked for on an application?

SC: To be precise we got 9,610 applications. We were hoping for 1,000 and were prepared to get up to 2,000. Luckily our database setup was capable of handling the big number of applicants. As we said in the application process we did split the group up into three subgroups. Those who wanted to focus on building great robots, those who wanted to write about MINDSTORMS NXT (books, reviews, blogs, training/teaching material etc.) and those who wanted to hack the product, develop new software, hardware or tinker with the Bluetooth connection. Then we tried to mirror the MINDSTORMS community regarding age and what country people were from. In the application process there was a blank area where you were free to write a comment or extra info. We read through all of these comments! And then we spent a lot of time looking at the database. First we narrowed the field down to 400, then to 200, then to 150 and final to the 100 chosen ones. So as you can imagine we did spend a lot of resources picking the 100 MDP's. We wanted to give everyone a chance and we did take every application very seriously. Out of the 9,610 I guess that appr. 8,000 people were very qualified to participate so it was tough to choose.

BJ: Once the team got started, did you think that the expectations of the LEGO Group were met? Were you able to get as much feedback as you had hoped for, and did the success of the team inspire

the LEGO Group to decide to create more teams like this in the future?

SC: I have to be honest and say it truly exceeded our expectations! Within the first week the NXT microprocessor was stripped of any secrets, the first try at an alternative programming language [from one of the newcomers] was made and we were really overwhelmed by the enthusiasm of the members who jumped to the occasion and started giving the product an overhaul. We asked them to take the product to its limits and beyond if possible – and they did! We hoped to see 50 per cent of the new 100 members being active in the MDP, and had in many areas up to 70 per cent being active. Adding to this we had the 13 original MUPpets engaged in the discussions, sharing all their knowledge with the new members, helping us herd this crowd of very active users, by e.g. acting as moderators in the various discussion groups.

We got much more feedback than we had ever hoped to get, and thanks to the collective efforts of the 113 members of the MDP we got a very successful beta-test of the product, and not only did the MDP add the finishing touches, we also received a lot of inspiration for the future development of LEGO MINDSTORMS NXT...

User groups have been actively involved in other LEGO product development, but having a process where so many users were so deeply involved in the development of a LEGO product is unprecedented, but I believe it will not be the last time we do this.

BJ: Can you give us some of the stats from the program (# of posts, # of bugs, # of projects used by the LEGO Group, etc)?

SC: To start with we had 8 forums with product-related topics, in which the MDP pioneers could meet up and discuss and exchange info, programmes, pictures, video and what have you, but within two days after we started the newcomers had requested for 3 extra forums to be assigned for special topics!

In the 3½ months the MDP ran the 113 members exchanged over 4,100 messages, hundreds of pictures and many videos (over 200 MB of files...), program and sound samples, listed over 150 bugs, of which many of course were known to us.

BJ: I know there was a lot of serious discussion on the bulletin board, but there was a lot of fun/humorous banter as well. What were some of your more favorite or memorable moments during the program?

SC: Well, one person stands out. I recall his inclination to constantly try and talk fellow MDP members (male and female) to go skinny-dipping with him... Do you know the type??? Hinting and suggesting to people to show more intimate pictures of themselves, and to go to secluded beaches with him...

OK, here it is...:

It is true that most of the messages were about serious issues, but as the days and weeks went by the members started to warm up

and make some serious fun, like sending funny pictures of models, giving them weird names, inspiring each other to go crazy with wild models. Some were sending photos and video of events they had been to with fellow MDP'ers, showing their robots beating each other up. At one time the German members started to write in a regional German dialect that was unintelligible for everybody else, I guess even for themselves! I'm still waiting for a translation.

Another funny incident was when we had a serious building competition, where the goal was to get a robot to get over a wall. That made for a lot of funny videos and comments – and model solutions. One that stands out was a robot capable of time travel – yes, time travel! It created a lot of comments from the other MDPers, who claimed it could not be done. I have only seen the video of the robot disappearing on one side of the wall to then reappear on the other side. I still have to see it with my own eyes to believe it.

I am very thankful that the MDP members also had so much fun to offer and seemed to really enjoy themselves in the process we had.

BJ: What kind of feedback have you received from the participants about the program?

SC: The members started sending thank you notes from the very start, but when the MDP session officially ended, I received many mails from members who thanked us for being allowed to be part of this, and they all felt that it was a truly unique experience, and they felt really involved and many wrote they were ready to do it again, asking when that would be. All in all, they believed it was big step for the LEGO Group to take, in a very crucial part of the product development, and many said that it is something we should continue doing. To which I can only add that with this buzzing community around us, it is definitely a concept we will use more in future projects.

BJ: Can you give us any insight into the next steps with the MINDSTORMS brand?

SC: Yes, of course. As you can see on the document with our plans for 2007 products we have a lot in store, but honestly, I am not allowed to tell anyone about it. And neither can you. I would have to erase your memory first...

One thing for sure is that LEGO MINDSTORMS has come to stay, and you will see much more of us in the future.

Can I have my 2007 document back, please? Now? No, don't put it on the website! NO!

*You can find out more about MINDSTORMS at their website:
<http://mindstorms.lego.com/default.aspx>*

Geoff Gray asks a lot of questions and also is Photo Editor to BrickJournal.

BrickJournal does not confirm nor deny the possession of a MINDSTORMS document. 

The LEGO Group: Jørgen Vig Knudstorp



2006: The View from the Top

Interview by Geoff Gray

Photograph courtesy of the LEGO Group

2006 was a year of change and surprises for the LEGO Group. Following last year's interview, BrickJournal once again talked to the Chief Executive Officer of the LEGO Group, Jørgen Vig Knudstorp, about the past year.

BrickJournal: It's good to chat with you again. It's been a little over a year since we last talked to you. A lot has happened during that time. What do you think are the more significant changes to the company and your role in particular?

LEGO had lost its way. We are no longer in an identity crisis. We are all about creative building and creative role play within the unique LEGO System that is founded on the three core platforms of Duplo, Technic and LEGO. We give users the joy of building, the pride in creating and let children become the builders of tomorrow by essentially stimulating their imagination in a logical, systematic and yet extremely creative fashion. This allows them to become the builders of tomorrow as computer programmers, designers, architects, developers of all sorts, scientists and great social beings.

My main concern therefore has shifted to our integrity towards this clear identity: are we all the time living up to it? Is our quality good enough to deliver on this (thank you for all your inputs, keep sending them).

In terms of my role and the business, the business has turned the corner operationally. We still have a long way to go in terms of restoring operations and in particular effectively moving a large part of our manufacturing abroad. However, that said the business is operating much better than it did 2-3 years ago. This is why my focus is shifting from survival, stabilization and optimization towards the long term development of the business. And so my role is changing a great deal. One of the fundamental shifts in our long term development is the decision to be very 'open source', to open up our business and be transparent. This is a crucial principle for me. It is a very delicate balance of managing property rights and disintegrating our company. It is a process I will continue

to personally sponsor because it is so crucial and has become almost the hallmark of my management style.

BrickJournal: With the success of the Star Wars line, and the addition of Avatar, Batman, SpongeBob and others, the LEGO Group seems to be making a big push into partnerships. How advantageous has this been for the company, and do you see TLG growing this area, or possibly backing off in the future?

TLG will continue to seek long term licensing partnerships when they appear to have longevity and a good fit to the LEGO way of playing. The franchises you mention have that quality. We continue to say no to numerous franchises every year, the list of examples is long. From this year alone; superheroes, Fantastic Four, Cars (Pixar), King Kong, and so on. I think if you reflect on these you can see how the ones we have picked have longevity and a great fit with LEGO brand values and LEGO play.

When you say we are making a big push, it is actually not accurate. We do less licensing than we used to do. The future growth in the area will be minimal and we will take a very careful approach in the area.

The biggest surprise this year has been that SpongeBob has been very popular, Avatar less so. Batman did much better than expected and Star Wars on the back of what I thought was one of our best Star Wars assortments ever, did not as well as in 2005 (the movie year), but it still did very well and ended up being one of the best LEGO lines of 2006.

BrickJournal: When you look at licensing, how much partnering with other companies are you doing still for promotional purposes (Maersk, Shell, Nestle, Kabaya, etc). Is this where a lot of your partnering has occurred in the past?

We continue to do a great deal of licensing where it makes sense. We have very strict guidelines of what we can be associated with. There is a clear go/no go list of categories. Examples of what we will not be associated with of course include alcohol and so on.

We no longer do any work with oil companies such as Shell due to the potentially very controversial reputation of such companies (even though they in recent years have taken major steps towards improving that).

Every year more than dkk 2bn (2 billion Danish kroner, or about \$350 million) of sales (25% of the current lego top line turnover) occurs as license retail revenues through companies like Nestle (or Life in the US) cereal, software games, board games and the like.

Kabaya is currently not being used as a partner in Japan but we are looking into new opportunities with this partner that we have a very long history with.

BrickJournal: In our previous interview, we discussed the company's push to reduce the number of unique elements, as well as reducing the color palette. How well is this going, and have you seen a positive impact so far? Also, what is the current unique element count? It seems as though we have seen a lot of new elements showing up recently.

This is a tough one. We continue to push the number down very successfully. I think what you see is more variety in the core platform of LEGO and Technic. Duplo and discontinuing lines such as Clikits are clearly falling dramatically. The number of active components (as we reference the combination of shapes and colors) is approaching 6000, well below our target of 7000. I think in the future, we will see about 6000 active components every year, with 1000 being new that year, and about 4000 being stable for at least 3 maybe even more years. So there will be a hard core, and then rotation on top of that. The introduction of Batman for instance made a number of black components necessary and also special elements that we had never seen before, including the minifigures for Batman. I think while everybody appreciates consistency in the unique LEGO System (nobody has quite something like it in terms of quality and reach, versatility, etc.), I think everybody also loves the special pieces that come out from time to time. This is an area where I really appreciate the second hand trading of special parts. In terms of economics we are seeing major, major impact on our financials from this significant reduction in complexity.

BrickJournal: When we speak of elements and colors, we have to also examine the manufacturing of these. The plans have been to move element molding to other companies, and to rework the molding machines so that the color is added at the machine instead of being built into the raw plastic. How are these initiatives going, and do they appear to be having an impact on the bottom line for the company?

They are working very well for us. It is not easy and there are major concerns but I have to say that our manufacturing people are doing a fantastic job here. Especially when you

“LEGO Factory continues to fascinate us. It is growing fast, and we are planning more things like the train special. So far we are concentrating on how to grow it, then later we will deal with the expensive and complicated logistics.”

consider many of them are losing their jobs. It is a testimony to the unwritten psychological contract between LEGO employees and the LEGO Group. It is very unique.

We are now reaping major efficiencies and we are seeing an impact on color variations, which we are monitoring. We have set up a special quality room, where I and other senior members of management, along with owner Kjeld Kirk Kristiansen, get together to discuss quality issues and what is acceptable and not acceptable. We consider quality a priority only on par with creativity and fun, and therefore above all other concerns for our brand.

BrickJournal: You mentioned in your last interview that we can expect to see more of LEGO Factory moving forward. We have already seen the move to buying individual pieces, as well as the addition of the train line. How is this progressing, and how fast do you see the palettes and features growing? Is LEGO Factory meeting the company's expectations?

LEGO Factory continues to fascinate us. It is growing fast, and we are planning more things like the train special. So far we are concentrating on how to grow it, then later we will deal with the expensive and complicated logistics. I expect a lot of activity in this area in 2007 and beyond. It is headed up by Tormod Askildsen, who is well known to many fans and participants in events/brickfests, etc.

BrickJournal: There have been a number of stories circulating about the LEGO Group's shortage of sets for the holiday season. It appears as though several retailers were already well stocked, but the shortages are heavily seen on the Shop At Home sites. How has this impacted the company, and how has it impacted the relationships you have with your

“Companies around the world are dying to get the kind of interaction we enjoy with you every day, and I value it and I treasure it.”

retailers? Also, has this changed any of your manufacturing or outsourcing plans for the future?

LEGO is experiencing a revitalization in terms of consumer interest. We expected this year to be one of decline, but in fact it became one of growth. It has overwhelmed us.

And even though we have increased manufacturing it has been hard to keep up within CITY, DUPLO, TECHNIC and MINDSTORMS. We are investing heavily in capacity now and expect to pick up during 2007. However, retailers are very concerned and are taking big orders in. We think they will have plenty of inventory for x-mas, but some individual products will unfortunately be sold out. When we look at sales out of stores, compared to last year, they are roughly flat (no or low growth). Shop at home is hit hard because it is seeing a lot of growth globally, and we cannot hold back stock that has already been promised to retailers that put in orders many months ago. It is a delicate balance between our own channels and those of the retail trade.

Overall our relationship with the retail trade is excellent but there are some issues regarding reliability of supply, but they are really liking the assortment and they are very happy with the LEGO business in terms of how it drives their overall business and profitability (which is their primary concern of course).

Now that we are building more capacity, we are leveraging our new suppliers, i.e., the outsourcing, so that process is very helpful to us in this respect.

BrickJournal: I understand the LEGO Group had a large presence recently at the grand opening of the Millyard project in the NorthEast United States. Can you comment on your thoughts about the project and the impact that it has on the company and the LEGO community?

This is a flagship project that has been going on for three years, or more. I am extremely proud of it, and I am very grateful that it was initiated despite all the difficulties we faced internally. Somebody had more foresight and vision than I did, and that is great. I think it is a real show case of what fans of LEGO can do, in collaboration with the company, and as such it is totally unique on a global scale.

BrickJournal: In terms of this being a showcase effort, does the LEGO Group have plans to release a publication on this, and what other ways are you pushing this project into the public's eye?

I don't think we have that right now but it's a great idea and I will feed that input back to our

community team and our PR team.


BrickJournal: The LEGO System of Play is truly a global toy and has the power to reach anyone with a little imagination. A lot of emphasis gets put into discussions with North American and European communities and the LEGO Group's relationships and offerings (S@H, LEGO Club, etc). Can you tell us what efforts are in progress to step up offerings to people in Asia, Australia, and other parts of the world where devoted fans reside?

Yes, it is being stepped up in Asia and Pacific as well. Last week I was in Sydney and earlier in Singapore, where I had a great meeting with fans of LEGO. In Singapore they gave me a really unique MOC of the Merlion, a signature sculpture of the Singaporean nation, like the Statue of Liberty to the US. We now have one LEGO ambassador, Diana Wong, in Singapore and we would like to see more ambassadors. The LEGO offices in Singapore and Sydney have great collaboration with local communities there. Also Japan is trying to step this up.

BrickJournal: What is your favorite set from the 2006/2007 lineup?

It is the Imperial Star Destroyer (the "small" version that was released this year), strongly followed by the Sandcrawler and then the Green Dragon (Creator) along with the Sentai Fortress in ExoForce. I realize with the Star Destroyer we could have done more for stability of the set (and we are learning), but it does not take away my fascination with the set.

BrickJournal: Once again, I'd like to thank you for the opportunity to speak to you. Do you have any parting thoughts for the readers?

Thank you for your sponsorship. You have really created what can almost be called an insurgency inside our company and I love it. I really enjoy myself very much with people like you and the shared learning we can have together is completely unique. Companies around the world are dying to get the kind of interaction we enjoy with you every day, and I value it and I treasure it. I am humbled by the duty of keeping this relationship intact, vital and refreshing for all of us, and I hope you will always let me know if you feel there is more we can do, or if our unique relationship is somehow challenged. 

BREAKING NEWS

BrickJournal got the scoop on a new LEGO Factory Exclusive set coming out from LEGO Direct that has been on the mind of many builders, the LEGO Hobby Train Set! Here's the 6 Things You May Not Have Known About This Set:

1. The trains have been designed by 10 Hobby Train enthusiasts from around the world
2. The box contains 1080 elements and the age mark is 16+
3. It is an advanced building set
4. 30 building instructions will be available for this set for 30 different inspirational train models (one set of instructions will be printed and included in the box and the 29 other instructions will be available online). They can build an indefinite number of trains with the amount of bricks available in the box
5. The retail price is 99.99 USD
6. The launch date is **March 19**, and you'll be able to get it at www.legofactory.com!



There's More...

There's also going to be **ANOTHER** set that's even more secret released from LEGO Direct -and *BrickJournal* will have stories on both of these sets in Issue 7, with behind the scenes info and surprises!

Including...

THE SECRET SET DRAWING

E-mail your name, mailing address, and age to admin@brickjournal.com, title Secret Set - you can win this unseen set!

Entries must be received by midnight EST, March 31, 2007 and have valid mailing addresses to be accepted. Good Luck!

Four Things That Most AFOLs Never Knew About LEGO



*Think you know
everything about
LEGO sets?*

Think again.

*Article by
Gerhard R. Istok.*

*Photography
by Gerhard Istok, Eric Strand,
and the LEGO Group*

Danish retailers sold children individual LEGO parts from these colorful retailer boxes. Note all the different brick colors available from 1949-56. Note there are even some “marbleized” bricks with more than one color.

1) The “ups” and “downs” of LEGO brick colors...

Today AFOLs (and children) are spoiled by the dozens of colors in which LEGO bricks can be found. This was not always the case. Most kids in the late 1950s and 1960s only had four major colors for LEGO bricks, namely red, white, blue and yellow. Clear was also available, as was black after 1961. But gray did not become a regular LEGO brick color until nearly 1980, with other colors coming online in the 1990s and beyond.

Most AFOLs would be surprised to know that from 1949-56 LEGO bricks were available in about a dozen different colors. These included red, white, blue, yellow, clear, gray, light blue, medium blue, dark blue, light green, green and orange-yellow.

Then with the advent of the non-slotted bricks in 1956, the number of colors was greatly reduced to only five colors (red, white, blue, yellow, clear). Black came online in 1962, with gray slowly returning from 1963-80, however not as bricks until the late 1970's.

LEGO Brick Color Availability:

- 1953** 12 + LEGO brick colors.
- 1958** 5 LEGO brick colors.
- 1963** 6 LEGO brick colors.
- 1978** 7 LEGO brick colors.
- 2007** 40+ LEGO brick colors.

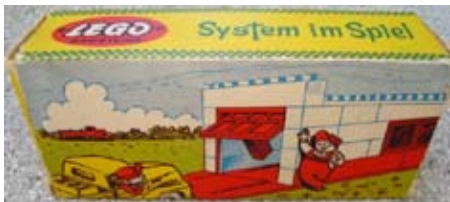
2) The LEGO set that came in all shapes, colors and sizes...

It is doubtful if any LEGO model set came in as many variations as the #236 / #1236 Garage set, produced from 1955-70. There were eight different box design / size versions produced. During 1958 there were sometimes four versions being sold at the same time. This set was produced in either rectangular (parts loose in box w/o 1:87 VW Bus) or flat box (parts held in place by cardboard insert with a 1:87 VW Bus) versions. The rectangular box versions were produced from 1955-70, while the flat box versions were produced from 1957-65. Neither version was sold in USA or Canada.

Interestingly enough, the flat box versions (with the 1:87 VW Bus) usually sell for hundreds of dollars on the secondary market, while the rectangular box versions (except for the earliest) usually sell in the \$50-70 range. Although the 1:87 VW Bus adds value to the set, many early LEGO collectors seem to prize the sets with the parts nicely displayed in the cardboard cutout frame that holds the part.



This earliest version (#1236) was produced from 1955-56 in Denmark, Norway and Sweden.



This version (#236) was produced from 1956-58 in Germany, and 1957-58 in Austria.



This version (#236) was produced from 1958-59 in Germany and Austria.



This version (#236) was produced from 1960-68 in Germany and Austria, and 1966-68 in the rest of continental Europe.



This earliest flat box version (#1236) was produced from 1957-58 in Denmark, Norway and Sweden.



This version (#236) was produced from 1958-59 in Denmark, Norway, Sweden, Switzerland, Belgium, Netherlands, Italy and Portugal, and in 1959 in France and Finland.



This version (#236) was produced from 1969-70 in continental Europe.



This version (#236) was produced from 1960-65 in Denmark, Norway, Sweden, Finland, Netherlands, Belgium, France, Italy, Switzerland, Portugal, Britain and (1962-65) Australia.

3) Size doesn't matter, but shape does...

USA and Canada Samsonite LEGO made a very interesting set from 1963-65. It was known as #610 Super Wheel Toy Set. This set contained many large and small LEGO wheels, tires and accessories. This set was more of a basic set with many building possibilities. The main model for this set was a standard blue LEGO locomotive and connected coal tender.

There was however a major difference between the USA and Canada Samsonite versions of this set. The USA set came in a tall box, with the illustrations of the main model wrapped around several sides of the box. The Canada version came in a long flat rectangular box with the image of the main model on the box top.



Because the Canadian box version looks more like a model set, while the USA box looks more like a basic set, there are big differences in the secondary market price for basically the same contents packed in different box types. The complete USA version of #610 has sold for as low as \$18 on EBAY in recent years, while an incomplete Canadian version has recently been bid to as high as \$343.

Size may not always matter, but shape certainly does!

You're Invited to BrickFest!

This year the one and only BrickFest will be held in beautiful Portland, Oregon USA. This year's edition, brought to you by the Greater Portland LEGO Railroaders, along with AMH Productions, has the full support of the LEGO ® company, just as in years past. The focus will be on us, the AFOLs, with two full days of lively roundtables and classes where you can get and share ideas with other designers from around the world. There will be the obligatory Brick Bazaar, Dirty Brickster and Wacky Races and lots of other fun stuff. We will have the largest display area of any convention with over 30,000 square feet! So we can go nuts on awesome displays when the public Expo comes around on Sunday afternoon, which will be April Fools Day by odd coincidence! Portland is a very affordable city to get to, and even easier to get around in. BrickFest's single Expo day will give you an outstanding chance to see some of the beautiful and unique things that make The Rose City such a wonderful place to visit, and more importantly it gives you a relaxed opportunity to reunite and hang out with old friends, as well as make new friends. BrickFestivities kickoff Friday March 30th, and will wrap up Sunday April 1st. Registration is open right now at <http://www.brickfest.com>. You can find a wealth of other details there as well. The last BrickFest in Portland was a runaway success, and we're for more of the same fun this year. We look forward to seeing you there!




4) When is a color not a color...

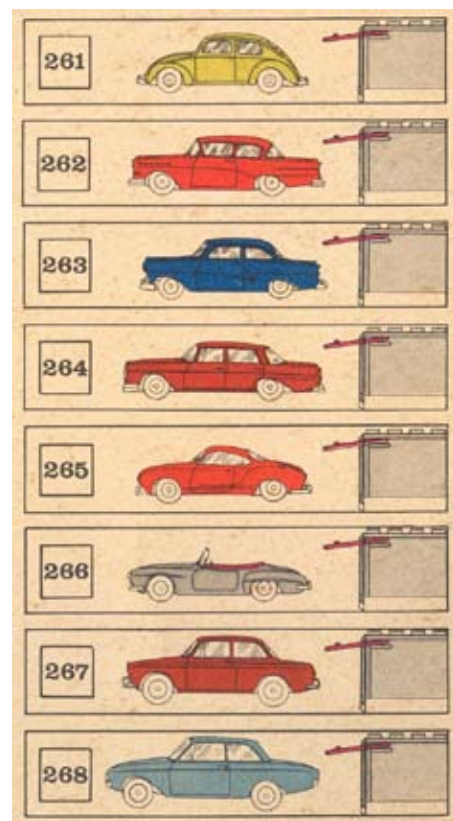


Around Christmas 1961 LEGO produced a new series of 1:87 scale LEGO cars with metal wheels. These cars came in a small plastic garage with a garage door that opened. These cars were first pictured in continental European catalogs (above) starting in 1962. From 1962 until 1965 the catalogs always showed a garage with a red door. Even the 1963 (International) version of Building Idea Book #238 (left) shows the garage door in red.

However in reality, only the prototypes and early production runs of these garages were ever produced in red. By the time these garages were introduced, the decision was made by TLG to produce the garages with a gray door. But all the artwork for the LEGO catalogs and idea books had already been finished. So children always got a garage with a gray door.

However, a lucky few did get these garages with a red door, and often with a white base and trans-pink tinted glass (the first tinted trans-clear LEGO items ever!). A few folks also may have gotten these garages with a black door and a gray or white base.

It seems that TLG released all of the red door and black door prototype garages into general circulation. So today there are none found in the Billund Archives. However, most owners of the surviving red garages don't know that they have such a rare item, since all the catalogs and idea books suggest they are common! 



1:87 garage prototypes/early releases (left and right), and the common released version (middle).

Gerhard R. Istok is a LEGO historian and collector with a history of collecting going back over 45 years. He is also the author of the extensive 1,265 page reference guide *THE UNOFFICIAL LEGO SETS/PARTS COLLECTORS GUIDE*, available now on CD. This article highlights items from the LEGO CD.

People:
Knud Thomsen



The Farmer and the Brick

He's an AFOL, a member of the Danish club Byggepladen and a farmer! Knud Thomsen lives on a farm in rural Denmark. He has cows to milk and bricks to build. As you will learn, late last year he was involved with a Japanese TV show called 'TV Champion' – as one of the contestants, he built his awesome Viking ship which includes several Japanese icons. The event took place in Denmark and it really looks like they had a lot of fun. In addition to farming and general building, he also runs a town layout with trains running through a majority of it, visitors are also welcome, by request. So, let's see what this Danish farmer and 2 term LEGO Ambassador has to say for himself...

Article by Melody Kriitzfeldt. Photography by Melody Kriitzfeldt and Ina Nilsson.

Just over a year ago, in September 2005, you were a contestant for Japan's television show 'TV Champion'. I would imagine the experience was amazing and exciting! Can you tell us your experience with the show?

Overall, the experience was great! I thought it was a really great thing to make the model; from the beginning it was quite exciting! The crew arrived in August (2005) and they asked me what I would like to build. At first my suggestion was something to do with Space and Vikings 'Space Viking' A Model that changes from something Viking to Space, but the TV crew did not like it. The size of the model was rather limited, to begin with the size started out to be 1mtr x 1mtr. This size did not meet my requirements with what I had planned to build. The crew suggested putting a train inside the Viking ship (since I am a fan of trains) – sadly they did not like the space idea. Then, 1.4 mtrs was suggested, but you can't fit a train in that size, I needed at least 1.8 mtrs to fit a train, in the end they agreed. So after that I started to search for pictures of Tokyo Station to add to the train idea, I was also inspired to build some other icons from Japan, such as Mt Fuji and Japanese Rice fields, and of course I was inspired by the Japanese bullet train, the Shinkansen.

Who were the participants and what did they build?

Japan – Sachiko Akinaga – A Globe of the world with a moving elevator and a zoo rotating on a carousel inside. (Let's go to the Earth Park!)

Japan – Jumpei Mitui – A large Japanese Temple, one half included a Japanese City and the other half a Danish town (Copenhagen), also with moving objects. (Friendship between Demark and Japan)

Denmark – Emil Tin – A Future City inside a giant flower with 5 opening petals. (Future City)

Denmark – Knud Thomsen – A Viking Ship with a moving Japanese train, a station, rice fields and Mt Fuji inside. (Viking Train)

So, there are 2 Japanese and 2 Danish contestants, how were you all chosen to be a part of the show? Did you have to audition for the part previously?

No auditions in Denmark, although the Japanese did have a few rounds to get to the final, shown on the TV show in Japan. Here in Denmark, we were hand picked and asked by LEGO to participate. LEGO Japan took pictures and the Japanese crew came to visit me to take pictures of my town/ train layout and to build a profile.

Do you keep in touch with any of the TV Champion contestants?

No, I can't speak Japanese, so it made it hard to converse with the Japanese especially. And they were not able to speak a lot of English.

Have you ever been to Japan?

No, not at all.

Was it hard to communicate with the Japanese contestants and filming crew?

They seemed to be all having a lot of fun!

We spoke through a Japanese interpreter, who actually is living in Copenhagen; LEGO hired her to help us for the show. Other than that, we used body language to express things. The Japanese host had a lot of fun, he is actually a famous Japanese comedian.

How many days was the show spread over? Was it only filmed at the park?

We started on Thursday, made the profiles then later drove to Billund to meet 2 of the Japanese people in the evening. Building started around 7pm on Friday night and we built again on Saturday from 8am to 8pm and again on Sunday from 8am to 11pm! We spent around 3 days constantly building and were almost finished at that stage... All the building you see on the show was built and filmed in Legoland.

The show gives the impression that a lot of the projects were built on the show, how much of it was actually built on the side?

Only Emil's project was built on the show... We had rules to follow, 3 days to build, size restrictions... But three quarters could be built off the show and the final quarter on the show... however that rule was changed close to the shootings. We were then allowed to build all that we could prior to the show. I built one half of my ship before actual filming (over 5 days) and the 2 Japanese contestants built around 90% of theirs before coming to Legoland. Sachiko built some of the globe for the camera only and there were also assistants and family members to help us, we had around 2 people per building...

Was the show stressful at any time? Time restrictions, pressure? Builders' block?

There was only stress with having to build within 3 days and the planning stages...





Can you share with us any behind-the-scenes fun?

The Japanese host was at my farm and I had him milking a cow, which was pretty funny as it was his first time! I don't think he enjoyed it that much though at the time... But they were at my farm for around 3 hours, they took some pictures and had a little fun, I think.

In the end you came up with the awesome Viking Ship which has a train running through it, it looks amazing all lit-up and the train moving around. Was it previously planned what projects you had to build or did you and the other contestants come up with your own ideas?

It was our own ideas originally, with a few suggestions from the crew and they had to agree to a few changes along the way...

How long did you have to plan your projects?

Planning first started when they visited, 3rd or 4th week of August and then it was shot in early October, so there was around 6 weeks of planning for the project and a lot of sending information back and forth to Japan to calculate how many bricks were needed to be ordered. They arrived around 5 days before shooting...

How many hours did you spend on building your projects for the show?

5 days and an average of 5 hours a day and around 30 hours at Legoland with assistance...

How many parts did it take to build your ship? I can see loads of Viking Warriors, how many are there in total?

About 10,000 parts or so and around 200 minifigures, some of the TV crew helped to assemble them...

Did you have to supply your own bricks or did LEGO or the TV show provide them for you? If not yourself, did you get to keep your ship? What about all the left over pieces, what happened to them?

I used what I had and ordered the rest, I got to keep my ship in the end... The left-over pieces? Well...

Was the Viking ship the only thing you built or was there more? (That we did not get to see).

Yes, it was enough, I think.

Where is your ship now? Do you have it stored away or is it out for everyone to see?

Upstairs in my house... I have used it several times for events and displays, Skaerbaek etc. It is built in 2 parts (modular) so it is easy to assemble.

Will your ship stay together or will you ever dismantle it?

Stay together. I want to keep it up as it is a part of my experience with the show.

Tell us more about the winner from the show, how was she to work alongside?

Fine, just hard to talk due to the language barrier...

What was the best thing about being part of the show?

The opportunity to participate and being able to get the bricks you wanted with no restrictions...

Since you are Danish, were you in any newspapers (re: the show) in Denmark?

Yes, local papers...

Did you participate in any other media related activities regarding your ship?

Other than the newspapers, not yet.

If another opportunity arose to participate in an event like the TV Champion, would you do it?

Yes, absolutely!

If yes, what would you build next time?

A working Danish Windmill with other models inside...

How long have you been an AFOL for?

Since... hmmm all my life really, ever since I received my first bricks, when I was around 6 months old.

Are you a collector of sets or do you prefer to buy parts mainly? Where do you purchase your LEGO?

I like train stuff and things for towns etc, whatever I need for my lay-out, so LEGO trains and whatever fits into my lay-out. I buy my LEGO from a local toy store and from LEGO...

Your interests include LEGO and trains. Is that LEGO trains or trains in general?

A bit of both, I like both.

How often do you build, are you building anything at the moment?

When I have the time and some ideas, but I am building nothing at the moment, I am busy sorting bricks.

Your website has a large picture of a town and trains, how long did you spend building the layout? What is your favourite building?

I have spent the last 10 years building my lay-out, the room used to be an old hay loft and I converted it into a LEGO room. I would say my favourite building is the new church.

You are a member of Byggepladen (Danish LEGO club), how long have you been a member for?

I have been a member for around 3 years now.

If you had all the bricks in the world, in any colours or shape, what would you build?

I would like to build a Legoland, in minifig scale, but preferably as an indoor park.

So, you are a long-time AFOL and a farmer, how long have you been farming for?

Since 1985, so around 21 years.





Tell us a bit about your farm, what we can find on your farm and what your role is...
I have 48 milking cows, a few fields for feeding the cows and several crops, grains, grass, sugar beets etc - I basically take care of the whole place.

I see the TV Champion crew visited your farm, did they have fun?
Oh yes, they had fun.

Do your farm animals (cows) also like LEGO? ;)
Ask them ;)

Have you ever build a cow out of LEGO before? ;)
No, not at all.

Would you like to see LEGO produce a 'Farm' set? - (tractors, barns, hay stacks, farm animals etc).

It would fit nice with my train layout. So, yes!

Where do you see yourself in 10 years time? Still building with LEGO?

I think so...especially if the 9 volt train continues...

Oh and in case you were wondering, 100 local Danish school children got to vote by stacking Duplo bricks on top of each other near the models they liked the best, this was the official form of voting! The 4 contestants demonstrated their models on stage while telling the children all about them.

Well, there you have it! Many thanks to Knud for his time and the invite to his farm! A very interesting experience! 

Related links:

Knud's TV Champion, 2005 article in Danish:

<http://www.byggepladen.dk/artikler/tvchamp05/>

Knud's website: <http://www.sitecenter.dk/legomodeljernbane/hjemmeside/>

More pictures: <http://www.tv-tokyo.co.jp/tvchamp/051117/p3.htm>

More pictures: <http://www.tv-tokyo.co.jp/tvchamp/051117/under.htm>



LEGO® Castle Tower Project Memorial for Joshua the Lionheart

As a dad who has gone through one of the toughest circumstances in his life, I have created a LEGO® set in memorial of my youngest son Joshua who passed in my arms on fathers day in 2005. I have created this project not to make any money but for every 4 sold, one will be given to a child who has experienced a heart condition. They are \$40 plus \$5 shipping and handling. The set is pictured to the right. If anyone is interested in ordering a set, please contact us via email: kelly01@visi.com (that is a zero and a one after kelly spelled with two e's). If anyone knows of any kids who have experienced a heart condition or would like to donate to kids getting one who have experienced a heart condition let us know. I am writing a letter to go with this set that shares my faith in GOD and my belief on my son who is in heaven. Thank you for your interest. Sincerely, Brian Kelley daddy of Joshua the Lionheart, Noah the Choopity, Andrew the Kiddo and Delaney Michael.





In His Words: Anthony Sava



Ulmaris, Sava's largest castle

Epic Building: The Creations of Anthony Sava

One of the most well-known builders of castles and dragons is Anthony Sava of Classic-Castle.com. Here he talks about his building and creations in his words.

Article and photos by Anthony Sava



I am a story teller and a dragon tamer. I am a griffon rider and a castle architect. I am a tree herder and a community builder.

My name is Anthony Sava, and I am a LEGOholic. I don't mean the average "Yeah I like LEGO, it's what I do" sort of addiction, either. I am an obsessive-compulsive, up till 3 am in the build room, maybe I should make one more Bricklink order, jump out of bed in the middle of the night with a new idea sort of LEGO builder.

If I am known at all in the AFOL community, it is for four things: big stories, big dragons, big castles and big ideas. I'm a big guy, so I guess it's only fitting that's how I operate.

Certainly my biggest LEGO themed achievement is the completion of my illustrated medieval fantasy epic *The Chronicles of Ikros*. It all started in college, where I got the idea to write the 'Great American Novel,' and after a few brainstorming sessions with my roommate I had a brief outline and a sample chapter of a new fictional story. About that time I was also sucked into the great new fad - a personal website. My website was originally filled with jokes and riddles, moving later toward horribly written social commentaries and finally, somehow, a site devoted to the characters of the King Arthur legend illustrated in my old childhood toy LEGO. What gave me the idea to fuse the two, my novel and LEGO bricks, is anyone's guess. What I do know is I had no idea what I was about to start when I announced my little bare-bones website devoted to my new story *The Chronicles of Ikros* on LUGNET almost six years ago.

The Chronicles of Ikros has grown into not only the original 40 chapter epic, now called *The Immortal War*, but I've even started the sequel *Chaos Skies*. *The Chronicles of Ikros: The Immortal War* follows the newest knight of Ikros, Garalt, on his journey from trying to prove his worth to saving the entire kingdom from the greatest of evils. Every chapter seems to pile on more trouble for the Kingdom of Ikros, from a rampaging army of the undead, to secret a plot to overthrow the king, and finally an ancient and evil dragon bent on destroying mankind. But hope still remains for Ikros, and Garalt soon finds a small group of friends to help him on his way.



Formethan version 2



Encounter with a sleeping dragon



Stonebarrow Keep

I wrote the story chapter by chapter, and as I progressed I became a bit more proficient in my storytelling abilities. This has caused what is perhaps the most regrettable complaint about my story – the beginning is hard to get into. However, since I finished the story, I've started to go back and rewrite the entire story, in hopes that someday I might find a publisher.

I've been given a bit of press over the years, most notably being featured on the website Slashdot. I receive a lot of fan mail from young LEGO builders who have read my story as well as from older builders newly awakened to the greater world of AFOLs.

In order to illustrate my story, I needed MOCs, not only for locations but sometimes for characters too. I originally created my first dragon MOC after being inspired by a similar one by Pawel Nazarewicz. I called her Tel'Karak Zrahl, a baffling name derived from my want to include her in my story. While she was very large and impressive, the construction was primitive, at best and was impossible to pose standing on all fours. Most of the joints were simple Technic bricks and pins, held together with antennae or some other minifig accessory jammed into the hole in the pin. Nevertheless she was a hit and earned me instant notoriety as 'the dragon guy.'

My black dragon was the ultimate evil in my story, and she worked very well as a villain. A few months later I got the idea into my head that she needed some balance, and the masochist in me decided that she needed siblings. And so, urged on by my friends, I built three more dragons, all similarly constructed. The red and yellow dragon, Formethan, was the first of the three and like the black dragon he had large, albeit rather lackluster wings. The second, Tempi Frei, was a blue and white seafaring dragon with a fishlike tail and a large dorsal fin. Finally, Vildeggraas was a green dragon with a scorpion tail and large sharp scythes where wings would have been normally found.

So proud was I of my dragons that I took at least one of them to every meeting I attended and quickly learned that I needed to redesign them or stop taking them with me. My primitive construction techniques were my undoing and every setup turned into a marathon of desperately trying to pose the plastic behemoths while trying to prevent people from accidentally knocking them over.

It was around that time that I discovered Brian Cooper's Dark Gundams MOCs and Eric Sophie's MOC Rin Tin Tin Din Din. The construction methods in these MOCs were exactly what I needed for a stable easily-posed dragon, and so with some guidance by Brian and Eric, and a healthy donation of red and yellow plates by Troy Cefaratti, I began work on upgrading my red dragon Formethan. I chose that particular dragon because he had always been my favorite, nicknamed the 'red toad' by some, and because red and yellow plates and Technic bricks were cheap.

After an amazing two month marathon build, I finished my dragon in time for BrickFest 2003, where he made his first public debut. I received some criticism for the fabric wings I had used, but it was the trade-off I made to make the wings larger without adding weight. I was finally successful in creating a dragon that was easy to pose, even if he does need a friction mat to prevent his 20+ pounds from ripping his joints apart. I liken him to Darth Vader; he's more machine than dragon. And to answer a question: no, I have no plans to rebuild any of the other three dragons.

Now that I had reached my personal apex of dragon design, I then turned my attention to my next building challenge – castles. After all, I had this story I was illustrating, and it was of medieval theme, but I had very little skill when it came to building a good looking castle. I had always wanted to do a gigantic concentric castle, but I had neither the skill nor pieces to attempt such a build. My previous attempts were quite colorful; so much so that their color schemes really detracted from the overall MOC.



Another view of Ulmaris

So I started small, focusing on terrain and trying for a castle built entirely without a plan. What resulted was 'Stonebarrow Keep,' one of my all-time favorite MOCs. It is a tower-like keep sitting on rough stony terrain with a river running through it. I then took a different direction, going for a castle built with design in mind, going so far as to draw up blueprints before I began construction. This castle focused on interiors, details and form, and later became the second iteration of Halcyon Castle.

Finally, I began design on my grand castle project – a truly concentric castle. I began drawing up plans on graph paper, taping the pieces together until I had the entire castle down. It took a good week to finish, but it was invaluable when it came to figuring out just how many LEGO elements I'd need to build it. It took six months, an advertising campaign promoting my future castle asking for orders in my Bricklink shop to pay for it, and a furious but frugal shopping spree before I could begin construction on my castle. That was just a few months before Brickfest 2005.

I modeled it after Beaumaris Castle in Wales, England, and taking that name into account, my wife dubbed it Ulmaris Castle. It was to have 9 large octagonal towers, (modeled after a similar design by Daniel Siskind) a giant inner gatehouse/keep, a moat, a drawbridge, and all manner of interior buildings. The castle would be built upon nine 48x48 baseplates. They would be covered in a brick built moat and the outer curtain wall of the castle. The outer ward (the part outside of the inner curtain wall), the inner curtain wall and the inner ward would be built on a grid of 32x32 and 16x32 green baseplates, resting on top of a brick-built support structure.

As I constructed it, I took devilish pleasure in teasing the folks over at Classic-Castle.com, posting my progress in text and talking about the pictures I had taken of it, but never sharing those pictures. A few times I broke down and did post one or two pictures, but nothing that gave a lot of detail. This lasted for many weeks, until I finished the castle just in time to take it to BrickFest 2005, where I was able to show it off to Kjeld Kristiansen himself!

Along with my story, my dragons, and my castles, I must say that I am very proud of another accomplishment in my AFOL career – helping to found the castle themed community site Classic-Castle.com. I realize that for some people, the topic of C-C is a rather sensitive one, as we have been accused of 'killing' the castle section of LUGNET and helping to fracture the community. Some went so far as to accuse us of simply wanting to be big fish in a small pond.

Other Models by Sava

Anthony Sava has built models besides castles and dragons. Here's a sample of the trains he has built and continues to build.



The Polar Express



American 4-4-0 steam engine and tender




Looking inside of Ulmaris

But C-C has become a very important fixture in the AFOL universe in my opinion and it should be praised for its accomplishments.

The idea of Classic-Castle.com stems from a community-wide discussion on existing and new community websites. Several members were brainstorming and planning new and different castle themed sites away from LUGNET. I decided that a new, all encompassing castle community site needed to be created, and began contacting several members of the community privately. Kevin Blocksidge, Ben Ellermann, Lenny Hoffman, Benjamin Medinets, Alex Polimeni and I began discussing what a community castle site should be. With the help and funding of Troy Ceferatti we put Classic-Castle.com online. The current admin staff of C-C includes the original founders - Kevin, Ben E., Lenny, Troy and myself, as well as Bruce Hietbrink and Nathan Wells.

I wear many hats over at Classic-Castle. I am the site designer, graphic artist and webmaster. I am a forum administrator and forum moderator coordinator. I am also the administrator of the Story section of Classic-Castle that includes the very popular (but only sporadically updated) Picture Captioning. I help run and judge the various contests we host, including our crown jewel the Colossal Castle Contest. I've also written several articles for the How-To section, including many extensive collections of downloadable versions of LEGO's medieval torso and shield designs for minifig customization.

Recently I've begun delving into other arenas of LEGO building, including Trains, Space, Mecha, and I even own a healthy assortment of Pirate sets. But my first love is and always will be Castle. To put it simply: I am a fanatic, obsessed LEGO lover. I've got a pile full of bricks and I'm not afraid to use 'em. 

You can see Anthony's website at <http://www.ikros.net>, or visit <http://www.classic-castle.com>.


The AFFOL (Adult Female Fan of LEGO)

It is a world that seems somewhat dominated by the male fan and products that are more or less aimed at boys... Yet we are about to discover that the boys do not dominate entirely!

This is a great new section where female AFOLs unite! Over the next issues we will cover female builders from all over the world! Look and read what they have to say, what they build, what they do and don't like and basically, their opinion on the product and how they use it.

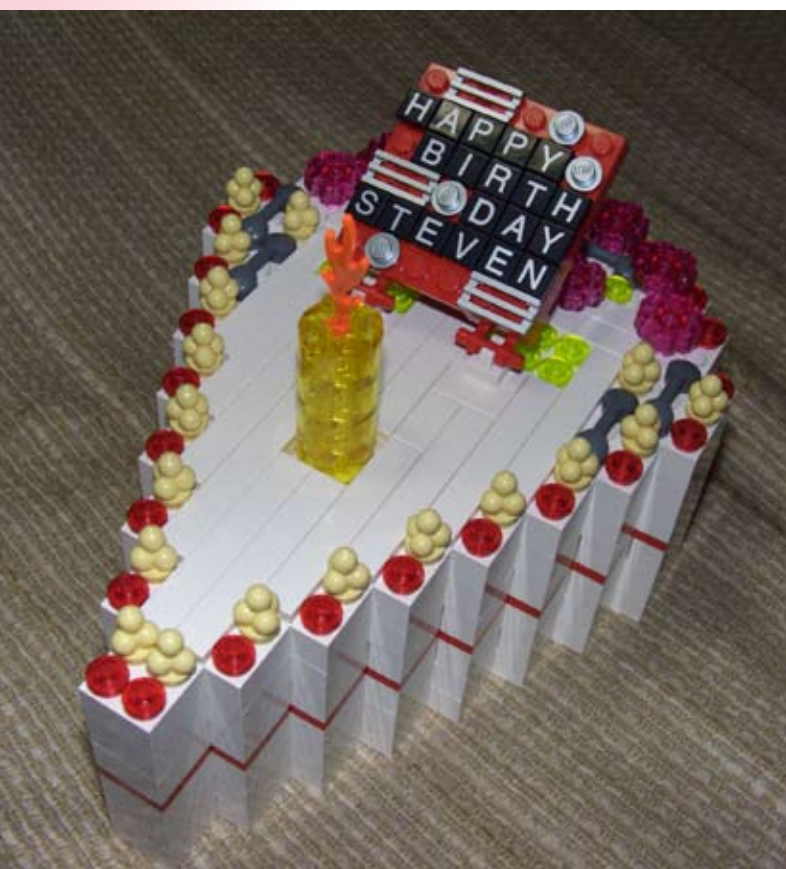
You will also notice that not all girls build just houses and cute things and that many are quite open-minded when it comes to what they like to create. These girls have talent and it is amazing and inspiring what some are building today as they let their imaginations go wild!

It is now time to lift that rock and see what is under it, let's meet some of our female AFOLs and check out what they have been building!

If you are a female AFOL, have a website, brickshelf folder or pictures of your MOCs and would like to show your stuff off, please email me at: mel@brickjournal.com 



Diana



Name: Diana Wong
(also known as DVirus on the internet)

Age: 32

Country: Singapore

Hobbies: LEGO (of course!!), shopping (hey, shopping is the next best past time besides LEGO!)

Brickshelf Folder:

<http://www.brickshelf.com/cgi-bin/gallery.cgi?m=dvirus>

When did you start building?

I started with LEGO at around 6 when my mom bought me a bulk bricks set (there weren't any theme sets during that time) and that's how the passion started. I built houses, trees, people, and planes, played with my little sister when we created our own "LEGO story" using the limited bricks available. It was the endless possibilities that I can create using the bricks that keep the passion going. Much later when themes sets were introduced, more LEGO sets were purchased as rewards and gifts and that was the happiest time of my childhood. The favourite themes were Paradisa and Castle that were released during the 80's and 90's. However due to the need to focus on schoolwork and sports, I drifted away from LEGO during my teen days.

Why are you an AFOL?

My passion for LEGO rekindled when I saw the Star Wars LEGO sets in 2001 and hence started the craze to buy the Star Wars sets in 2002. Since then, I never looked back as I moved on from mere sets collection to building MOCs (my own creations). I love the idea of being able to create and play even as an adult. I love the sound of bricks knocking against each other when I am searching for a brick in a tub. I love seeing others creations and sharing my own with others. LEGO allows me to relax my mind, to refresh from my work stress and I feel fun and joyful when I am creating with LEGO.

How many hours do you spend building with LEGO?

I never counted! It must have been hundreds or thousands of hours. I have done projects with my own AFOL group and worked on creations for my friends, loved ones, etc. I seriously have no idea.

What are your favourite building themes (both what LEGO produce and what you like to build yourself?)

My current favorites have to be 9V Trains, Town, and Star Wars. I love sculptures though I am not very good at creating sculptures, but I am working very hard to learn to "visualise in a 3-D" matter for my future projects. I also love vignettes as Singapore is a very small country with limited spaces for houses. Hence there is indeed not much spaces for large creations and it's difficult to find large quantity of bricks here. So vignettes are the best solution!

What do you like most about LEGO and their products?

The cool "clicking" mechanism with hundreds of variety of parts and large range of colors available is what I like most

about LEGO. One can make HUGE creations of the mini/micro creations, and its all depending on our mind! And the best part is that bricks created 10 years ago still can be used now! You can never achieve this with electronic games. Games created 10 year ago will not work with current game devices, ha!

5 parts you would love LEGO to produce:

1. More trans-color / clear parts, today there is very limited range of parts for transparent parts.
2. More luminous / neon parts, today there is very limited range of parts that can glow in the dark.
3. More chrome silver parts, today there is more, but still limited.
4. More chrome gold parts, today there is only a few available, which is so sad.
5. More minifigs accessories, like food, cups, plates, fruits, I know there is already a wide range, but I would love more!!! I would love to see orange, pears, grapes, popcorn, cotton-candy, chocolate, more types of flowers, leaf, plants, etc!

What is it like to be as a female in the AFOL world, which is dominated mostly by men?

I enjoy the attention, especially since is a male-dominated hobby.

What would you suggest to LEGO to make their products more popular for girls?

As a female, I love colors. LEGO has created many new color bricks like different shades of pink, cyan, lime green, purple, etc recently, which I think it is a wonderful direction. I love to see more variety of parts with all these new colors. I will love LEGO to bring back the kitchen set and themes similar to Paradisa. Clikits are cool but LEGO should consider using the Clikits part in sets, besides creating them for "jewelry".

Is LEGO doing enough to promote their products towards girls?

Nope. All the newer themes are very focused on boys, like Bionicles, Exo-force. Even though we see new Belville sets every year but there are hardly any promotions to promote them. Girls will love themes created with storyline or comics. I sure hope LEGO can consider putting more focus here.

What would you like to see from LEGO in the future in relation to girls?

I love to see more themes and products focusing on girls. Although many sets are "neutral", like town and creator, but a little more focus would be great. There could be a hair salon for a town set or a shopping mall for a town! That would be cool! How can a town be one, if there aren't any malls? It can't always be containing only police stations, fire stations or petrol-stations right?

Any other comments you would like to share?

There are too little female minifigs in sets today! There has to be more female minifigs around!!!





Name: Sachiko Akinaga
County: Tokyo, Japan
Hobbies: Building with LEGO & listening to music
Web Site: <http://www.letslego.com>

When did you start building?

I first started collecting/building when I was 15 years old, when I saw LEGO in the toy shop for the first time. Then I bought a LEGO set because I was attracted to LEGO town and the Minifigure, which is so pretty. That was my trigger. As a child I had been playing with block-toys only between the ages 4 or 5 and 10. At the time those were not LEGO but Nintendo-Blocks. As a little girl I enjoyed building anything from my imagination. In my childhood, I often built rockets and ships. Maybe I didn't have Minifigs, so I didn't build the house or constructions. And at the time I had only white blocks. I don't know why. So when I saw the LEGO for the first time, I thought I would like to build a colorful and lovely LEGO-town for myself.

Why are you an AFOL?

I became a graphic designer, and I sealed up my LEGO for studying design. I intended to seal up it until I got old. But in 2001, when I got out my small things, I touched LEGO by mistake. Then I had an uncontrollable urge to "build something", so I broke the box seal easily. I now intend to play LEGO as a hobby for all my days.

How many hours do you spend building with LEGO?

On my holidays (days off) I play with LEGO for about 14 hours.

What are your favourite building themes?

I particularly like the LEGO-town series. And I like all series (train, robot, car, dinosaur...), because I can find out something new in all series. I think I would like to build anything that people get excited after they see my work. And I'm going to challenge various themes. Because, when adults and children who have never played with LEGO see my work, I wish they would also like to play with LEGO.

Sachiko



What do you like most about LEGO and their products?

Corporate logo design and high quality.

What is it like to be as a female in the AFOL world, which is dominated mostly by men?

I am not conscious about it. But I see a lot of works of AFOLs, and when I look anew at my work, I feel my work is feminine.

What would you suggest to LEGO to make their products more popular for girls?

I wish for the release of a vacation house, pretty buildings of letter-carriers that there were in old LEGO-town. (Those are my favorite sets). In the Town series I wish for a park, food-store etc, except fire department and police station. I wish for a house set that fit the size of Minifig like in the Belville series. I wish for a creator set that we can build a lot of various pretty animals. I wish for a happy view of the world of Minifigs with smiling faces. I wish for a set that we can use as interior accessory - (lighting stand, accessory box, etc)

Is LEGO doing enough to promote their products towards girls?

I think maybe LEGO isn't doing enough to promote. However, I think recently #7870 and #5475 are very good for girls. I think LEGO is doing more promoting sets like them.

What would you like to see from LEGO in the future in relation to girls?

I wish there were fascinating LEGO sets so the girls who aren't interested in LEGO would think "I would like to build with this."

Any other comments you would like to share?

I made my website because I want to tell a lot of people about the enjoyment of LEGO.

And if I built something, I would upload the pictures of work to my website for this purpose.

It's a great pleasure to raise popularity of LEGO-fun regardless of gender and age.

Of course, I think LEGO has a lot of fascinating products.





Ina

Name: Ina Hjorth Nilsson

Age: 39

Country: Denmark

Hobbies: My hobbies are of course LEGO but also painting, kite-flying, gymnastics and writing stories...

Brickshelf Folder: <http://www.brickshelf.com/cgi-bin/gallery.cgi?m=ina>

Web site: <http://www.ina.h.n.webbyen.dk>

When did you start building?

Now I want to tell a bit about me and LEGO... As a child I often got to use my brother's LEGO... When I got my hands on it, I immediately started to build houses and small towns... When the towns were made I soon began to build a story and the play was on in no time... My other interests as a small girl were mostly drawing and painting but also making things out of paper and other materials and of course, gymnastics and horse-riding...

Why are you an AFOL?

Because I have always loved to build and play with LEGO... And one of my best discoveries is 'Byggepladen,' a group of Danish AFOL's...

How many hours do you spend building with LEGO?

From 30 minutes a day to 20 hours... But normally about 2-3 hours a day...

What are your favourite building themes (both what LEGO produce and what you like to build yourself?)

LEGO's products...? Own themes are sure city, houses and buildings.

What do you like most about LEGO and their products?

The possibility to be creative and make my own designs...

5 parts you would love LEGO to produce:

Food for minifigs.

What is it like to be as a female in the AFOL world, which is dominated mostly by men?

It's great...I have some good male friends... But of course it could be fun if more women would be a part of the LEGO-world...

What would you suggest to LEGO to make their products more popular for girls?

Give us some more details for minifigs like chairs, tables, food and playthings...

Is LEGO doing enough to promote their products towards girls?

I don't know... I have only boys' myself and I don't look at commercials either...

What would you like to see from LEGO in the future in relation to girls?

A small city with realistic houses, shops, and minifigs..... A bit like Building Bonanza but not as big...



**This summer,
see the world.**



Brickworld2007

June 21 - 24

**June 21-24, 2007 • Chicago, Illinois •
www.brickworld.us**

Commentary: Eric Brok

It's been a long way *A personal history of ten years in the hobby*

This computer rendering of a towboat exemplifies the growing demands of detail in LEGO models as well as the ongoing development of computer tools.

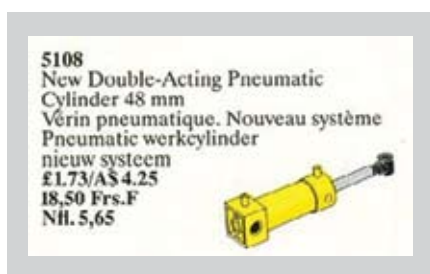
Article by Eric Brok. Photos by the LEGO Group, www.brickset.com, Jin Sato, Dirk Plug, and Eric Brok.



LEGO is not a hobby. It's like having ten hobbies at the same time.

You may find yourself photographing architecture, reading up on railway history, studying the structure of castles, discussing blueprints of spaceships, understanding car mechanics and experimenting with robotics issues. You may develop an opinion on building instruction design, sorting methods, system compatibility, shifting markets in the toy industry, internet communities, cultural differences, patents & copyright laws and production outsourcing. At parties, there's hardly any subject that doesn't have a LEGO angle to it.

And above all, you may meet special people, get to special places and experience special moments, as I was lucky to have in the past ten years.



The 'LEGO on my Mind' website celebrated its tenth anniversary: 1996-2006. <http://www.erikbrok.com/legomind>

Special moment: Renaissance

Like many adult LEGO enthusiasts, I have gone through a period we like to call The Dark Ages: not paying much attention to anything LEGO. But in 1995, at the age of 29, I was in a toy store. Something caught my eye. It was a rack of LEGO Service sets, including some pneumatic elements. These had not been available when I was a kid. With a mix of curiosity and nostalgia I bought some and on the train home, I immediately opened the bags, connected the cylinders and tubes and was childishly fascinated by the way in which they functioned. All this occurred in plain view of other commuters, to some embarrassment of my girlfriend. Fortunately she is still with me to this day.

My interest quickly widened from TECHNIC to Trains, then Town and ultimately included Duplo, Znap, Galidor, and even Scala doll houses, simply out of curiosity for how the system developed, for better or worse.

Special moment: Website award

In 1996 I first published my website 'LEGO on my mind', which was quite early in LEGO web history. In those days, www.lego.com offered hardly more than a simple placeholder home page. There were a number of personal home pages posted by LEGO fans, but only a handful offered substantial content, such as the Fiblesnork Guide and Pause Magazine. It was a special moment to have my website awarded the 'Cool LEGO Site of the Week' and receiving rewarding feedback. Back then, the one and only global forum about LEGO was the rec.toys.lego newsgroup. The LEGO Users group Network (LUGNET) went public in October 1998, to become the major LEGO

forum for several years. In 2006, 'LEGO on my mind' celebrated its tenth anniversary.

Special moment: Toning down

The 1998 retail catalogue made me jump with excitement. But it wasn't the release of the new Mindstorms robotic systems that made me happy. Rather it was the first Adventurers series and the introduction of tan bricks in useful quantities. This was a welcome change from the primary colors. Together with a growing assortment of dark grey bricks, this allowed for building in more toned-down colors. The 1997 collection already had shown a remarkable move toward the dark side, with Bat Knights as well as black leather minifigures and high hat voodoo skulls in the Time Twisters range. By the way, the flying bath tub in the Time Twisters was hilarious.

Special moment: Far away

On a morning in April 1998 I thought I had awoken in an alternate universe, or at least a galaxy far away. A press release announced Star Wars LEGO sets would be coming the next year. Up to that point, LEGO had consistently stayed away from licensed products, and now suddenly that changed. And since Star Wars was one of my movie favorites, this was simply too good to be true. I didn't get much work done that day.

I avoid calling myself a LEGO collector, because that implies buying sets to complete certain series. I always try to buy or not buy a set for its own individual merits. So while I never 'collected' LEGO Star Wars sets, I ended up owning almost each and every one of them, simply because they were all superb sets on their own. Also in that sense, I feel the Star Wars license has been a very good thing for LEGO.

Special moment: Robotics

The launch of Mindstorms in 1998 was a big boost to the hobby. The Dacta computer interfaces had been around for quite a while, but were very expensive and only known in the educational field. The Code Pilot had been released as a proto-Mindstorms device. It allowed control over one motor and sound, through programming by barcodes. It could respond to one input switch and one light sensor. It was a clever solution because many kids didn't have access to a pc yet to program such a device. But even the cleverest device isn't very useful if it controls only one motor. To me, the Barcode set was impressive mostly because of the clever mechanisms it used to overcome the limitations of the electronics.

The Mindstorms RCX proved a very versatile and popular platform for robotics. Enthusiasts studied its inner workings to such an extent that individuals could write their own software tools, including new firmware. This process became an historic example in the industry of how users can extend the usability and thus popularity of a technology, if not restrained by the company who owns the rights. When TLG became aware of this, the company even published a developer's guide that went far beyond anything consumers 'needed to know'. Myself, I made a simple tool called 'Mind Control' that helped to program the RCX in its versatile inner language instead of its limited visual programming environment. But it was soon eclipsed by alternative programming environments, in particular NQC (Not Quite C).

Mindstorms was a huge success, but with the wrong crowd: mostly adults. So unfortunately, while most enthusiastic Mindstorms users were eagerly awaiting advanced expansions of the system, subsequent developments were targeting younger kids, making it easier for them to get started.



Set 5988 Pharaoh's Forbidden Ruins (1998)



1999 model of the Star Wars Snowspeeder, one of my personal favorites in the movies



Left: RCX Programmable LEGO Brick (1998) and Scout Programmable LEGO Brick (1999)



Model of a former grain exchange market



Large 1:100 model of a brewery site, commissioned by Grolsch to De Bouwsteen

Special moment: A hunch

I experienced a great moment in the hobby in 1999 while playing around with the new Scout programmable brick from the Robotics Discovery set. When running some built-in programs, a little light flickered at seemingly random patterns, without any apparent function. Led by a hunch, I took the old Code Pilot and held it to the flickering light while in record mode. Then in play mode, the motor would run in accord. It was a striking discovery to find out that the flickering was in fact a motor command (later to be known as Visible Light Link), and actually matched the light patterns of the existing bar codes for the Code Pilot. This was a fine example of unexpected compatibility created by clever LEGO designers.

Special moment: An unexpected thank-you

In 1999 I attended the Mindfest event at the MIT Media Lab in Cambridge, Massachusetts, USA. The Media Lab had been partnering in developing LEGO Mindstorms. 'Mindstorms' actually is the title of a seminal book by Seymour Papert on robot programming by children. Besides being a unique event in a special place, Mindfest was one of the first events to meet people you only knew from the net.

For example, Richard Wright thanked me for helping him and his students out with some mechanical issues we had discussed through email. It was great to unexpectedly meet someone in person like that.

Special moment: Futura Walhalla

During 1998-1999 I did some low-key freelance design work from home, for LEGO Technic. To acquaint myself with the team and the job assignment, I was invited to LEGO product development (then Futura) in Billund, Denmark. All development teams, ranging from Duplo to Technic, were in one big hall, a former factory building, so it felt like floating trough Walhalla when I wandered along the workplaces to see what was being researched and developed. I also had a first look at the finished 1999 product line, and after the recent Juniorisation of Town, I was relieved to see that they took a different approach to Star Wars sets.

Another amazing moment: I had filled a very large cardboard box with loads of Technic LEGO pieces to work with from home and showed it to my supervisor. Then he asked: 'Need another box?'

Along the way, it proved hard to deliver a significant contribution to the design process from home. My ideas had to fit right into their ongoing line of thinking, while being something they hadn't thought of themselves. So after a while the collaboration was ended in good atmosphere. My supervisor said he had to terminate the contract due to budget cuts, which shows the kind attitude of these Danes.

Special moment: Community building

Since I joined our enthusiasts society De Bouwsteen around 1999, it has grown from about 50 members to about 800, fostering many friendships. The society has developed a close relationship with the local LEGO representatives, especially since 2001, when we helped out with the LEGO WORLD event for its first time. The event proved overwhelmingly successful and became an annual spectacle on globally unique scale.

De Bouwsteen has also involved me in several commissioned projects, like a town section to demonstrate VELUX windows, and a massive model of the Grolsch beer plant, which wouldn't have been possible without a team effort.

It has been very productive to sit down with a client and discuss the various possibilities (and challenges) of using LEGO to promote the clients company or its message.

Special moment: Without flying colors

To me, the single most ill-advised decision TLG ever made was the 2004 color change. In one big overhaul, all light grey, dark grey and brown were replaced by similar but different shades. The reason given was that the new shades simply 'looked better', as was tested in a panel group. While that in itself was a matter of taste, the incompatibility issues with prior production were dearly underestimated. Both in the consumer base and in the company, this change became a costly and ongoing nuisance.

For example, pieces in old colors had to be used in new sets, because there were production shortages in the new colors and overstock of the old colors. Reruns of existing sets were in newer colors. When buying second hand sets, you won't know if it has all the right colors. My LEGO room would need extra bin space and better lighting.

Ultimately, the new CEO Jorgen Vig Knudstorp wrote a public letter of apology, regretting the change. When I met him at BrickFest 2005 and thanked him for that bold letter, he mentioned that TLG would even have considered changing back, if they were not in dire financial straits at that moment.

Meanwhile, at my home I sorted the new colors into one big quarantine bin, undecided how to deal with those.

Special moment: On a towboat

In 2005 a marine towing company asked our society, De Bouwsteen, for a large LEGO model of one of their newest towboats. When I was asked to design the model, I visited the actual boat in the docks to make pictures. On the spur of the moment, the crew invited me to join them on a job that afternoon. So I unexpectedly was on the bridge of an operating towboat while it was docking immense ocean vessels. It was one of those moments I deeply enjoyed how this peculiar hobby gets you into surprising situations.

Special moment: Set development

By 2006, TLG had developed close relations with the 'fan' community, including involvement of fans in set design processes on several occasions, such as Mindstorms NXT and the new train sets. Also, some Ambassadors were invited to contribute in certain projects. So in October 2006, I spent a marvelous week at the development department in Billund. This time around it wasn't just meeting people, but actually getting to work, which gave me much insight in how set designers go about their job. And how they make great colleagues too.



Avonturia at LEGO WORLD 2006




Kjeld Kirk Kristiansen and me talking about Avonturia at LEGO WORLD 2006



Model of a towboat

The hobby in perspective

In 2006, my perspective of the hobby was changed by a health condition with a bad outlook. Suddenly, it didn't make sense anymore to buy sets or pieces that may become cute or useful in future years. So now I only buy select sets that I enjoy for their building experience.

Also, I had to start thinking of selling most of my collection, including how to rebuild over a thousand sets from assorted pieces. But after some doubts, I decided instead to spend a couple of months on a project for LEGOWORLD 2006: the Avonturia amusement ride. I figured, creating is more important than organising and selling. And that's what the hobby has been about for me. Special people and special moments aside, the LEGO system itself is an evolving medium for personal expression. We all express ourselves in our own personal way, and the LEGO system offers a common universe in which to share and understand those expressions. 

Do you want to learn more about the online LEGO community? Then swing by <http://www.legofan.org>. LEGO Fan is a web site dedicated to helping people learn about all of the great online resources available, and to help connect people with each other.



LEGO® Fan

LEGO Fan - Your entry into the world of LEGO Enthusiasts.

www.legofan.org

In Their Words: Megan Rothrock

From time to time, BrickJournal calls on builders to talk about how they build and what inspires them.

This installment is with Megan Rothrock, who has a delightful building style. Here, she describes it in her words!

*Article and photography
by Megan Rothrock*

I was born in New Zealand in 1972, and grew up among the redwoods of northern California.

The daughter of a schoolteacher and theater arts' professor, I was always surrounded by very talented and creative people. I've always had LEGO around me.

In 1978 my family moved to Exeter in England for the year. There I made a lot of friends who were all into building with LEGO bricks. They had a line running from their fourth floor attic to the garden. We used to challenge each other by building vehicles. We would hook them up to the wire and send them careening down into the garden! Whoever sustained the least damage won. The stakes were high - winner take all - for sweets! I shudder now to think about smashing bricks now -but at the time it was a blast!

My first LEGO set that was all mine (and not my older brothers') was the Big Yellow Castle! It was my Christmas and birthday gift I loved it! I still have it with its box.

After England we moved back up to Humboldt, California. I dreamt of working for Hanna-Barbara (to make Scooby-Doo cartoons) and spent many a day and night filling up sketchbooks and building with LEGO.

Castle and space themed LEGO sets were my favorites. I would go to my friends' houses on the weekend and we would build all weekend! Even at the age of seven, I was hooked on the glowing transparent pieces in the space sets. I started mowing lawns, pulling weeds and cleaning my mother's freaky Victorian house every Saturday for \$3.00 -anything to get more LEGO.

LEGO has been around me all my life. In high school my best friend Jayson had a massive LEGO city that engulfed his room. Visiting him was my first chance to have access to a lot of bricks to build with: he had far more than me. I featured his LEGO city in one of our school yearbooks and discovered that LEGO is indeed timeless. Everyone loves LEGO. After all we've all grown up with it. I've always focused on the arts. In school I would take every art class I could; anything to stay in the creative-zone and escape.

I hit my 'Dark Ages' in the mid 90's when sets started to become more juniorised and had too few pieces.

Fast forward to the year 2000 when I moved to The Netherlands. I got back into LEGO and began to pick up small sets, and started to build again. I then met and fell in love with Mark Stafford, also an AFOL. He introduced me in 2002 to the world's largest public LEGO exhibition LEGOWORLD here in Holland. I was blown away by how far LEGO set design had come- and how now I could build the models I had always wanted to!!! I got the Wild Collection Designer set (4101) and was hooked!

I've been building ever since. I exhibit models throughout the year with The Bouwsteen (a Dutch LEGO Club) going to Club Days and the big event of the year, LEGOWORLD. I enjoy meeting people and conversing about LEGO. I also post my models online at Brickshelf -

<http://www.brickshelf.com/cgi-bin/gallery.cgi?m=Megs>

For me LEGO is not only a great way to fire-up my imagination, but also a lifesaver.

I was in hospital 2 years ago, spending three weeks in a coma. Before I got out of ICU (after 30 days) I had managed to build with the Green X-pod. After two months in the hospital, I was finally home, but for some reason I was unable to build or draw! I began slowly and tried to build sets from instructions. Over the next few months I improved and finally got to where I could build my own models again. I started building feverishly, with an entirely new and different perspective of the elements and approach to design.

Many people have asked me how I build.

To some extent I'm not exactly sure, but my philosophy is "there is a use for every element."

I like to build with the full spectrum of LEGO made elements. I use Technic, System, Bionicle, Clikits, and even Duplo. I have even used some of the BIONICLE box lids in some of my creations.

I start with an idea in my head. Then I work out a drawing or use reference photos to get the correct form, and shape. Due to my education in animation I build from the 'Inside-out.' I use a skeletal structure (either invisible or actual) and begin to form the structure with the bricks. I'm constantly keeping in mind:


How they would this creature move? Or would it move at all?

What are their character traits?

If it were real, what would it eat? Where would it sleep?

What is it's form and posture? How does it sit or stand? How does it move?

I use a lot of 'SNOT' (building with the Studs Not On Top) and other techniques to create the shapes as close to my original idea as possible. I draw inspiration from nature, machinery, science fiction, and odd or unique things.

In the future I'll continue pushing the building envelope! I have more Podagons, more train motor based uniqueness and a mini-figure theme (that I've never seen anyone else do) is also in the planning stage. I relish any feedback I get on my creations so please make comments when I post MOCs, I'll always try to respond! Long Live the Brick! 

LOBSTERIX 5100



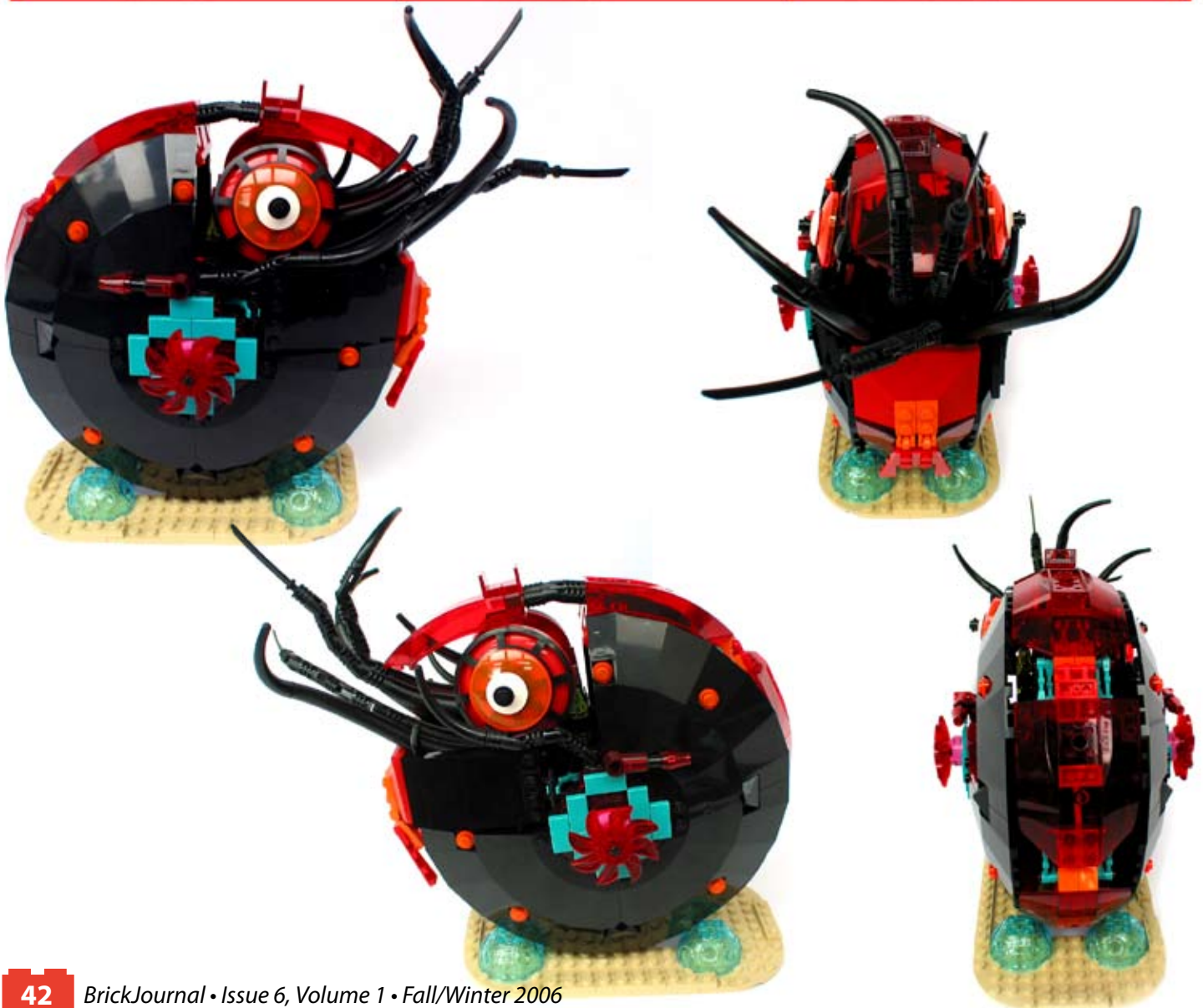
Exclusive to *BrickJournal*!

The Lobsterix 5100: A Track Vehicle powered by a LEGO Spybotics Motor. With two independent drive tracks-this Cybercrustacean can climb over anything in its path. It is equipped with a sensor in the tail for quick reversing and fast getaways.



NAUTILEX 5090

This was my first serious build. I wanted to build a cyber-craft of some kind and I have always liked the nautilus sea creature and thought 'hey I can build that'. Well, that was easier said than done. After much research, and many hair-pulling nights he was just about done. Then tragedy struck when I was in hospital for 2 months - Draak my 3.5 foot long green Iguana leaped onto my building table maliciously smashing The Nautilex 5090 to bits! After I was back home and finally able to build again I rebuilt him. Now he is strong enough to toss up in the air!



The Tragon

While attending LEGOWORLD I saw first-hand how powerful the train motor is. My first thought was, "Why do people just build trains?" Well, dragons are a huge part of my influences so The Tragon was hatched! I was inspired by the Chinese costumes used in parades, their use of bright colors and fantastic movement.



THE SEA TRAGON

After building The Tragon for LEGOWORLD in 2005 I wanted to make another for this year.

The idea was to build an underwater sea beast that could also be very scary. I used a more sedate color palette and added a couple of mini-figures. Some kids at first thought the Sea-Tragon was being too mean to the mini-figures, but after I explained they had tried to steal his treasure they agreed he was punishing them justly!



The Podagons

The Podagons are some of my favorite models.

They are cute and fuzzy on the outside but tough as nails on the inside. You can't always judge a book by it's cover and each one has a taste or obsession that is unique to them, but not immediately obvious when you first see them.

They start out as a sketch and then I begin to build them. I work very hard to capture the same character and personality that's present in my drawings. I push the bricks to translate the fun organic energy seen in each Podagon sketch. I feel they truly represent "The Animator" in me.



URPLE



GREEPLE



PERGY



VERGIRAK



Goodbye RCX, Hello NXT: The Arrival of LEGO MINDSTORMS NXT

For many, the MINDSTORMS NXT is a major leap over the previous robotics system, but for many more, it's a daunting set to play with. BrickJournal contacted an NXT builder to introduce us to the set by creating a model and a program.

*Article and art by
David J. Perdue*

Staring in amazement at my computer screen, I couldn't believe what I saw when I visited the official MINDSTORMS website. The LEGO Group had redone the website to accommodate a forthcoming product: the MINDSTORMS NXT set. A short movie revealed the robotic toolset's powerful capabilities, but there were relatively few details on the site. However, there were enough for anyone to know that after several years of waiting, the LEGO community finally had another MINDSTORMS set in sight.

That was in January 2006. The NXT set has since been successfully released, and a horde of eager NXT inventors across the world are busily building, programming, and developing. The NXT set is still a new product, however, and a lot of people will have received their first one as a Christmas gift—in my opinion, a great gift!

Long before the NXT set, many people—including me—had become avid users of the MINDSTORMS Robotics Invention System (RIS), the predecessor of the NXT set. As a result, numerous MINDSTORMS fans are accustomed to the building and programming characteristics of the RIS. However, while bearing certain similarities, the NXT set is considerably different than the RIS, which means that some longtime RIS users will face a measure of unfamiliarity when first working with the NXT set.

For example, in the RIS the main structural pieces were TECHNIC bricks. In the NXT set, beams are the main structural pieces, which demand studless building techniques since they don't stack and snap like bricks. However, beams are, generally speaking, more compact than TECHNIC bricks and give creations a more realistic appearance. On the electronic side, the NXT microcomputer (simply called the "NXT") offers four input (sensor) ports, whereas the RCX had only three. Additionally, the NXT set includes four sensors: touch, light, sound, and ultrasonic (distance). The RIS only had three sensors: two touch sensors and a light sensor. Another feature of the NXT is an LCD display that is huge in comparison to the LCD on the RCX microcomputer of the RIS. Still another feature of the NXT is Bluetooth technology (wireless communication), which the RCX didn't have at all. Finally, although both the NXT and RCX have three output (motor) ports, the NXT set includes three servo motors, motors with built-in rotation sensors.

Fortunately, the increased robotic capabilities help to offset any difficulties encountered as a result of unfamiliarity. Nevertheless, many current MINDSTORMS users, not to mention new ones, will be spending some time acclimating to the building and programming characteristics of the NXT set. For those in the middle of that process, my advice to you is this: Before launching an ambitious, "from the ground up" NXT project, consider modifying an existing model into another creation. In other words, take one of the projects presented in the NXT set and modify it by adding and removing pieces to achieve a unique creation. This process can assist in solving "builder's block" and effectively teach you how to work with the NXT components. I am in no way discouraging a resolute determination to begin by building something from scratch, but I believe that many people will find this initial approach helpful. The following project is an example of how to put this approach into practice.

The Challenge: A Modified Tribot

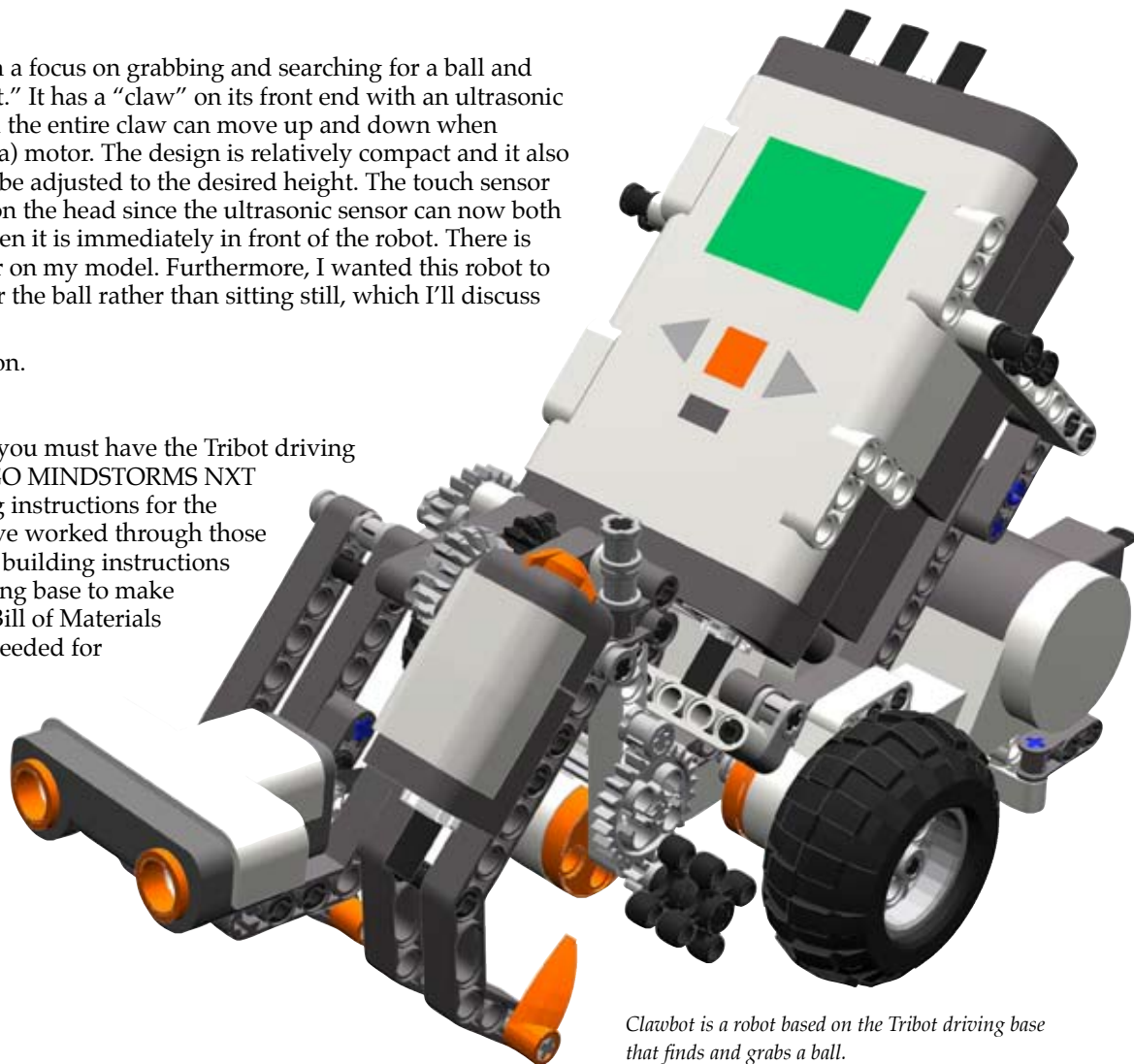
One of the projects provided in the NXT set is Tribot, a three-wheeled vehicle. Among the six challenges presented in the NXT software for Tribot, one of them is to equip Tribot to "see and react to an object in front of it." The user is instructed to accomplish this by outfitting Tribot with an ultrasonic sensor, a touch sensor, and some TECHNIC pincers that can deftly grab a ball (the object). Using the graphical NXT-G programming environment included with the NXT set, the challenge then instructs the user to program Tribot to remain still until it detects movement with the ultrasonic sensor, move forward until the ball presses its touch sensor, and then grab the ball after hearing a handclap with its sound sensor. Finally, the robot turns around and scoots forward, dropping the ball once it detects a black line with its light sensor.

I decided to modify Tribot with a focus on grabbing and searching for a ball and subsequently created “Clawbot.” It has a “claw” on its front end with an ultrasonic and touch sensor attached, and the entire claw can move up and down when powered by Tribot’s third (extra) motor. The design is relatively compact and it also allows the ultrasonic sensor to be adjusted to the desired height. The touch sensor is used only to properly position the head since the ultrasonic sensor can now both detect a ball and determine when it is immediately in front of the robot. There is no sound sensor or light sensor on my model. Furthermore, I wanted this robot to actually do a little searching for the ball rather than sitting still, which I’ll discuss later.

Let’s begin with the construction.































The Construction

In order to construct Clawbot, you must have the Tribot driving base constructed first. The LEGO MINDSTORMS NXT software has complete building instructions for the Tribot driving base. Once you’ve worked through those instructions, simply follow my building instructions here, which add on to the driving base to make Clawbot. I’ve also provided a Bill of Materials (BOM), which lists the pieces needed for Clawbot.



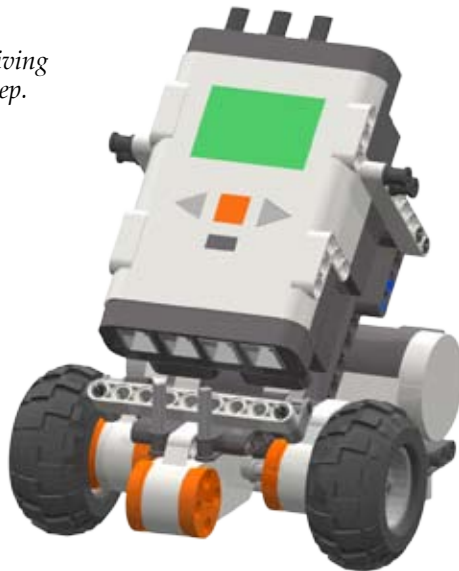
Clawbot is a robot based on the Tribot driving base that finds and grabs a ball.

Clawbot’s Bill of Materials (excluding Driving Base pieces)

					
x1	x2	x1	x5	x3	x6
					
x1	x4	x2	x8	x1	
					
x2	x2	x2	x3	x2	
					
	x2	x2		x2	
					
	x2	x1	x3	x2	
					
	x1	x7	x1	x2	
					
		x2			

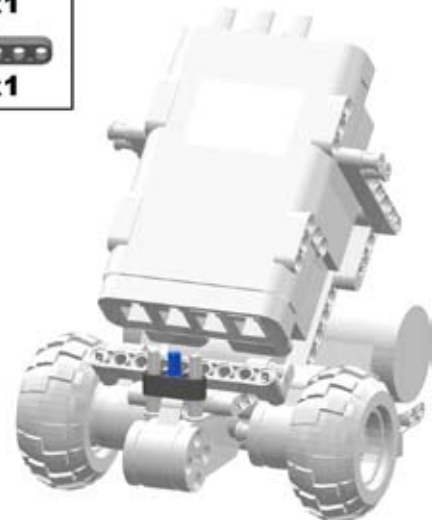
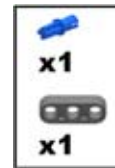
1.

Creating the Tribot driving base is the very first step.



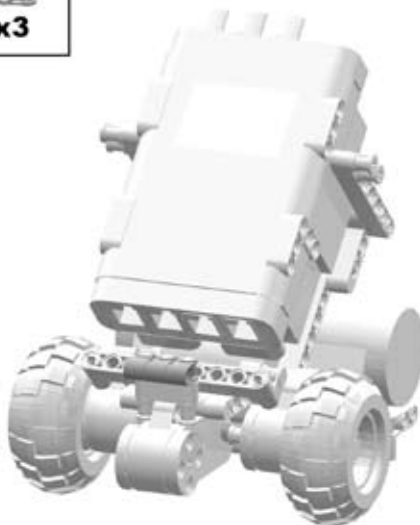
2.

Add a 3M beam and a friction axle peg.



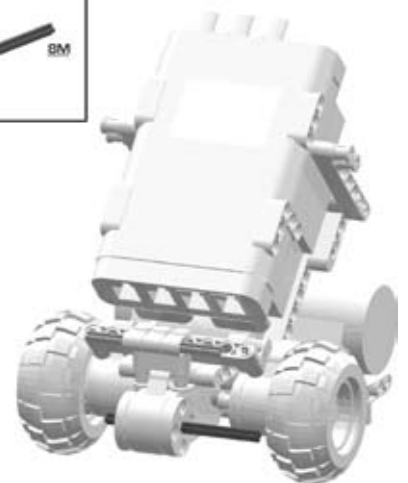
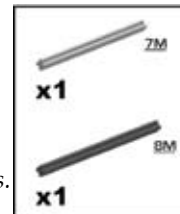
3.

Add three crossblocks.



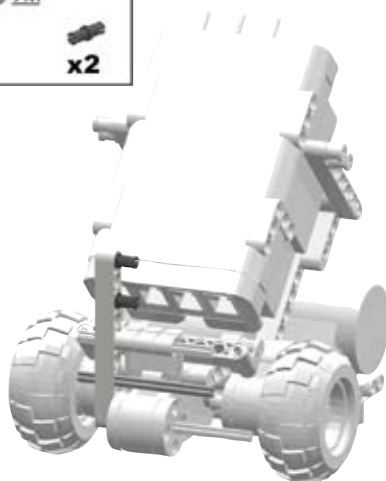
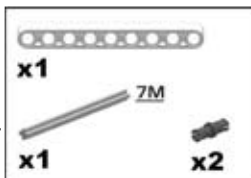
4.

Add a 7M and an 8M axle. You will secure these axles over the next several steps.



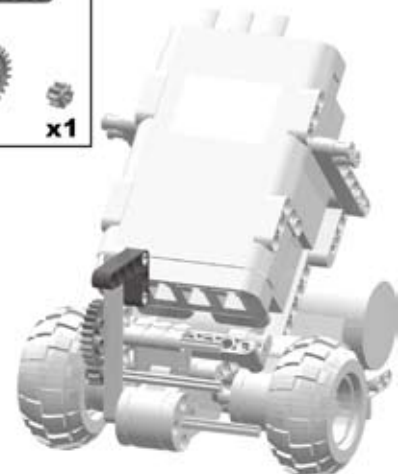
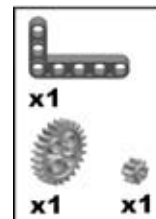
5.

Add a 9M beam, a 7M axle, and two friction pegs. The axles might slip around a bit, but you will lock them in place soon.



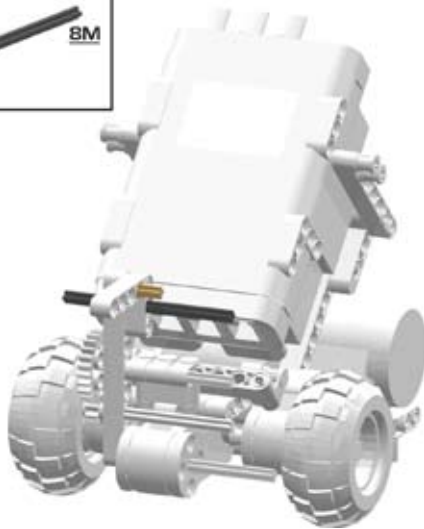
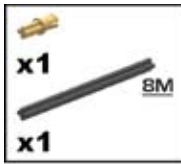
6.

Add a 7M perpendicular angled beam, a 24t gear, and an 8t gear.



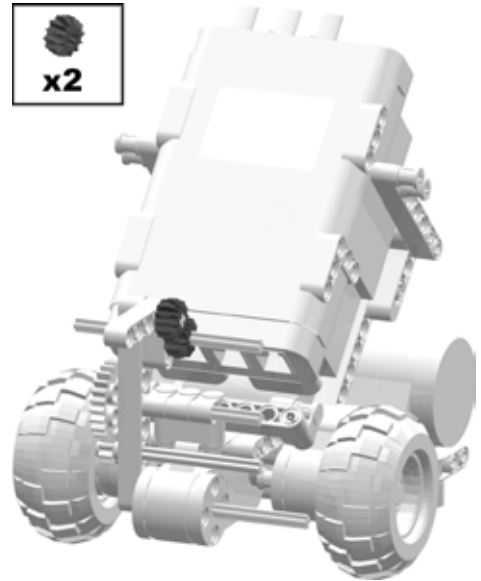
7.

Add an 8M axle and an axle peg.



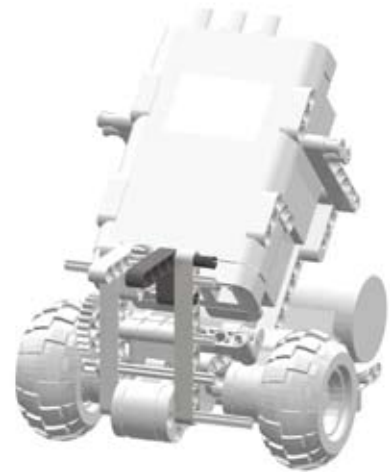
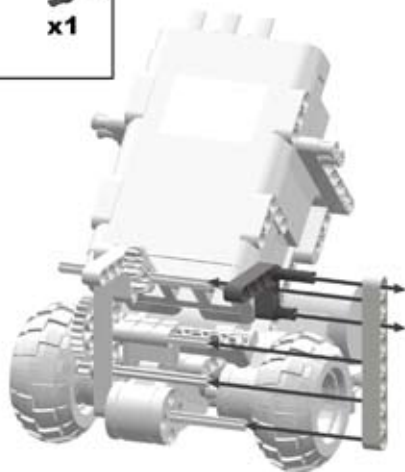
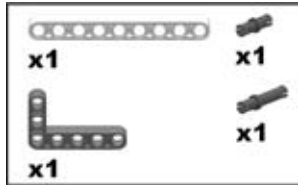
8.

Add two 12t double bevel gears.



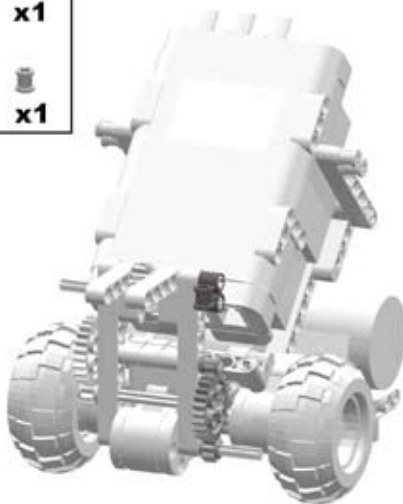
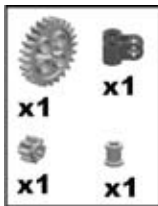
9.

Add another 9M beam, 7M perpendicular angled beam, a friction peg, and a 3M friction peg. If you attach the 7M beam with its pegs to the 9M beam first, all of the pieces will attach to the robot easier.



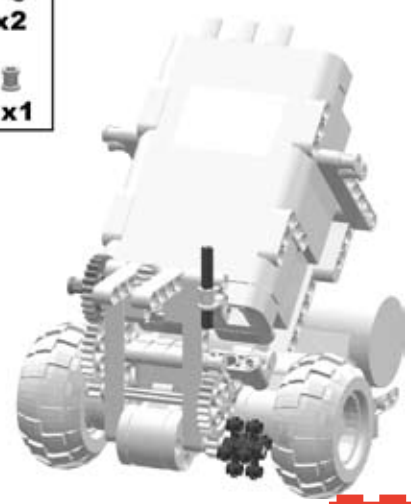
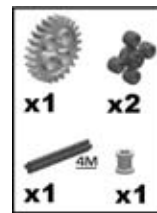
10.

Add a 24t gear, and 8t gear, a double cross block, and a bushing.



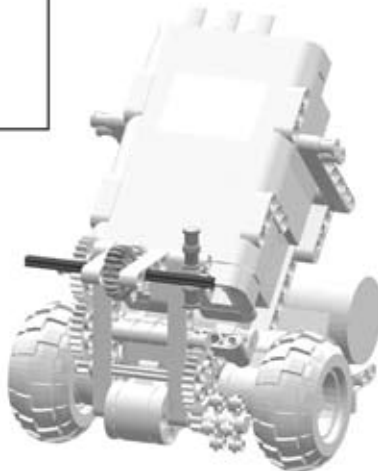
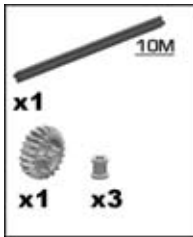
11.

Add another 24t gear, two knob wheels, a 4M axle, and a bushing. You're halfway finished!



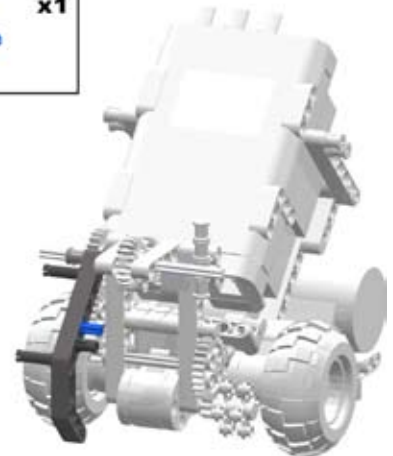
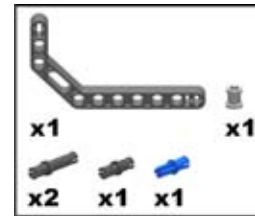
12.

Add a 20t double bevel gear, a 10M axle, and three bushings.



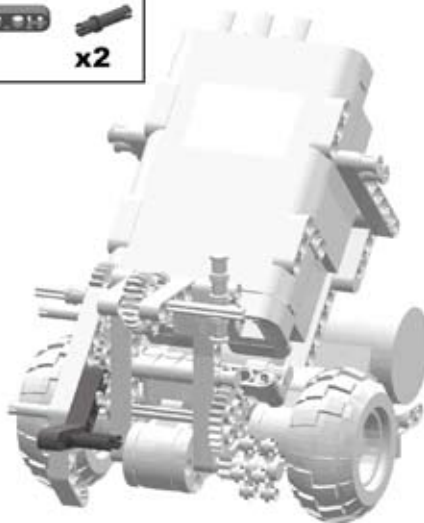
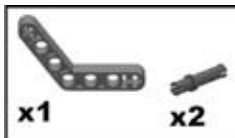
13.

Add an 11.5 angled beam, a bushing, a friction peg, two 3M friction pegs, and a friction axle peg.



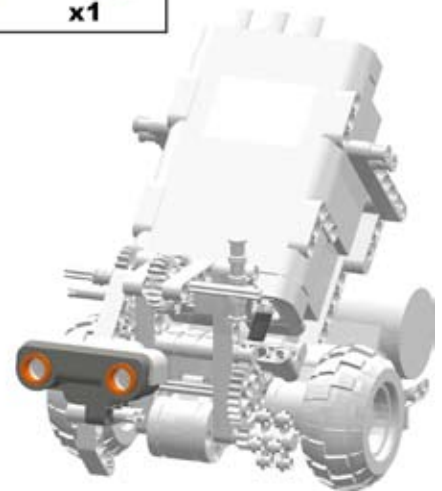
14.

Add a 7M angled beam and two 3M friction pegs.



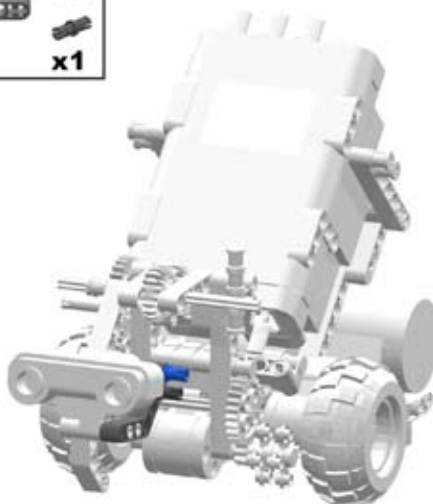
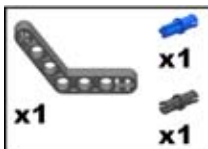
15.

Add the ultrasonic sensor and connect the sensor to the NXT input port 4 with one electrical cable (the "cut off" cable is representative of a complete cable).



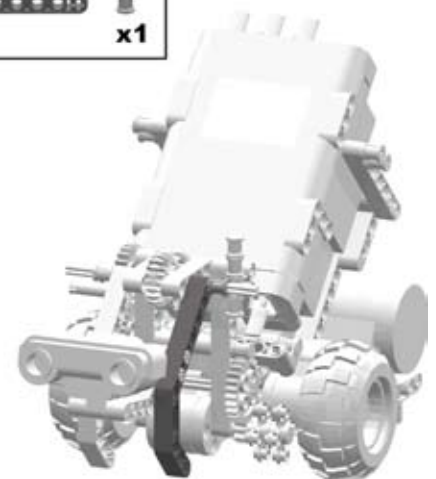
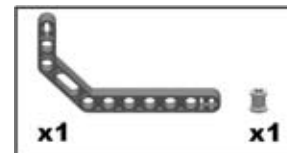
16.

Add another 7M angled beam, a friction peg, and a friction axle peg.



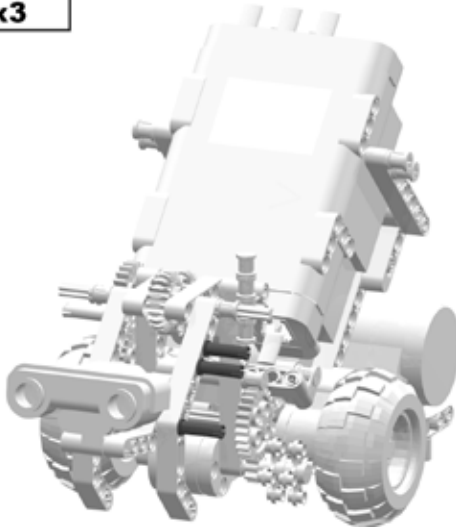
17.

Add another 11.5 angled beam and a bushing.



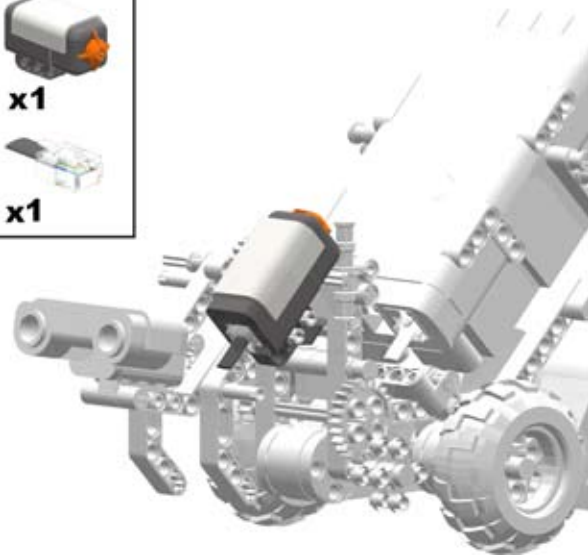
18.

Add three 3M friction pegs.



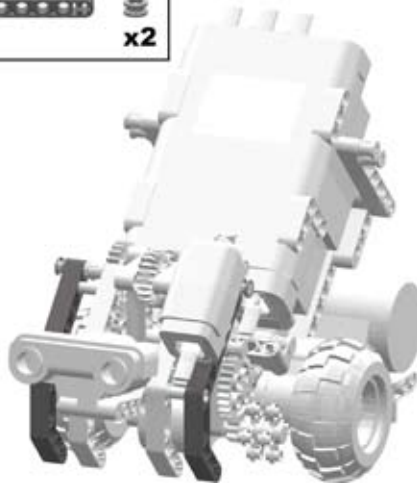
19.

Add a touch sensor and connect it to the NXT input port 1 with an electrical cable.



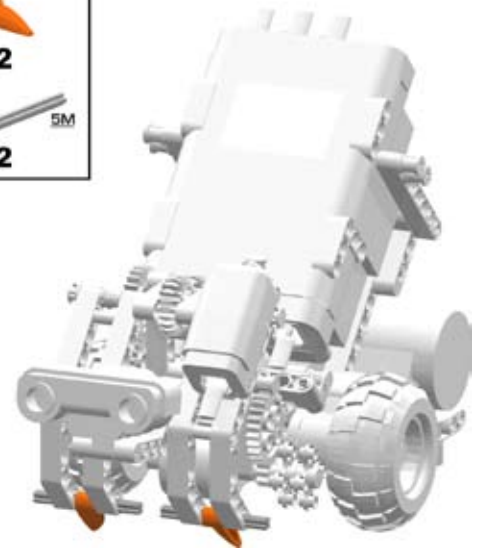
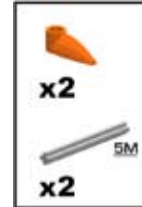
20.

Add two more 11.5 angled beams and two half-bushings.



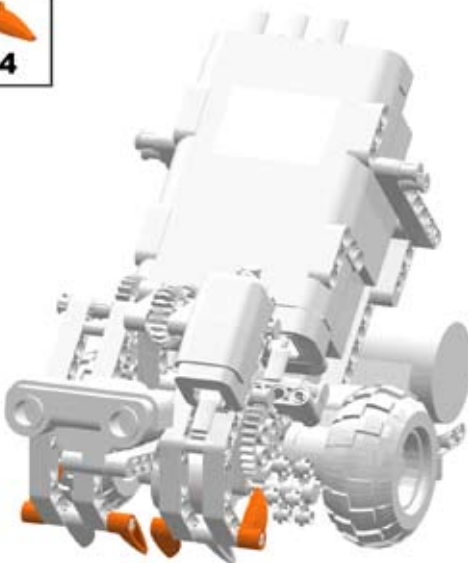
21.

Add two 5M axles and place a TECHNIC tooth on each one. In order to do this, you must position a tooth and then slide an axle through it.



22.

Add four more TECHNIC teeth, and you're finished!



The Programming

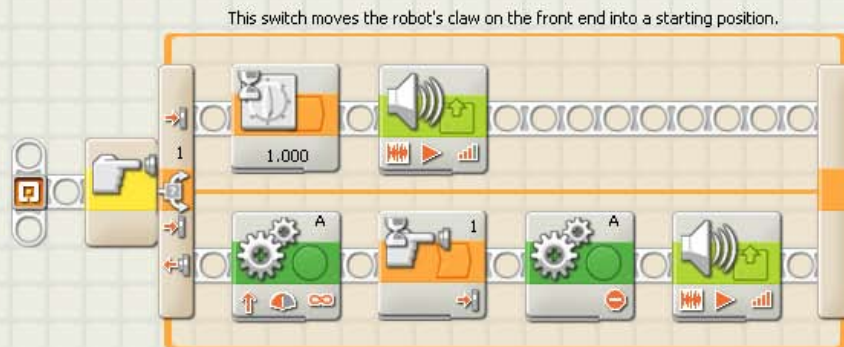
I used NXT-G to program Clawbot and placed a number of comments throughout the program. You can see the program and my comments on the following pages.

continued >>

The Programming

I used NXT-G to program Clawbot and placed a number of comments throughout the program, but the following paragraphs explain some of its basic concepts.

First, the program properly aligns the robot's claw using the touch sensor since the claw could be in a variety of positions when the program begins. To do this, it rotates the claw upward until its touch sensor is activated—then it knows the exact position of the claw. Next, using a servo motor, it precisely moves the claw downward into an efficient scanning position. (The two black knob wheels are useful for manually moving the claw when necessary.)



Second, the program has the robot begin by spinning in place and scanning its immediate area. It doesn't make much sense to go off somewhere in the room if the ball is two inches away! The program rapidly repeats a series of *switches* (basically *if-then* structures) that look for the ball with the ultrasonic sensor but keep the robot spinning at the same time. If the ultrasonic sensor sees the ball, the program enters deeper into the switches and the robot maneuvers to the ball and grabs it. Because of the difficult nature of attempting to accurately hone in on a small object and grab it, the program implements a series of carefully timed and measured actions, which accounts for the long string of programming blocks.

Third, the program implements two built-in rotation sensor switches that monitor the servo motors' internal rotation sensors, and when the motor shafts have rotated a certain number of degrees, the switch instructs the robot to scoot forward and turn a little to enter some new territory. Although not comprehensive or highly accurate, this approach to searching for the ball keeps the program relatively simple and still allows it to detect some balls in the immediate area.

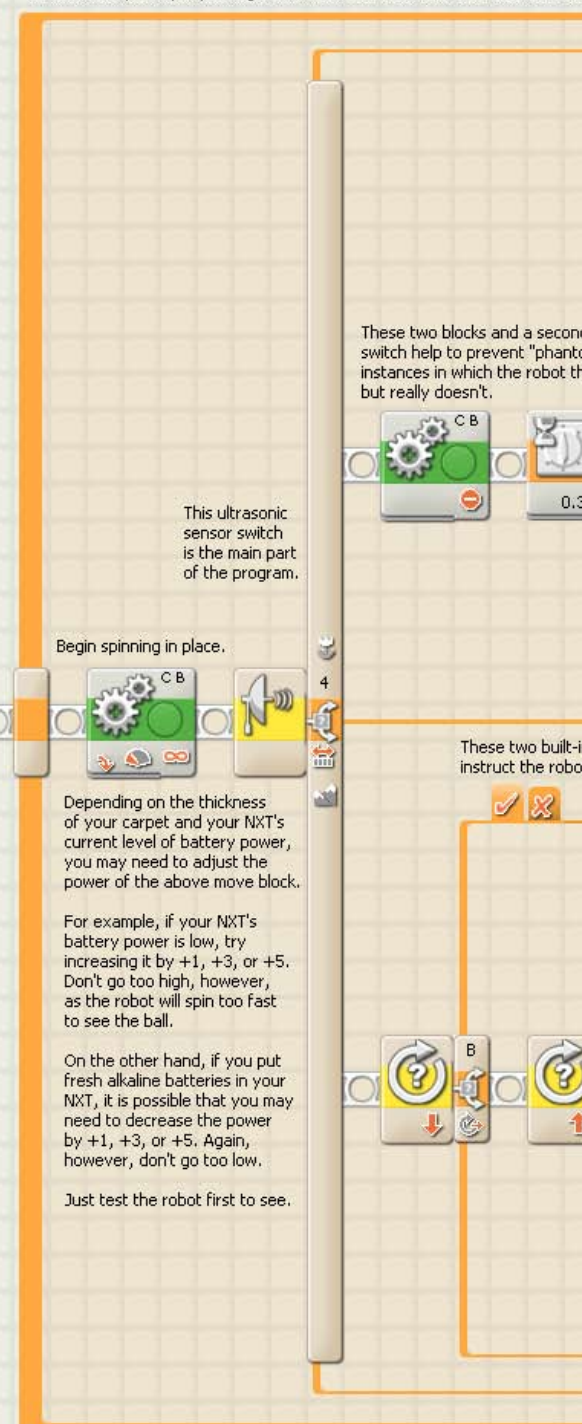
The Testing

Once you've built Clawbot and downloaded the NXT-G program to it, you should set up an appropriate environment in which the robot can perform. First and foremost, note that Clawbot must perform on carpet because the plastic balls in the NXT set will roll around on hard flooring.

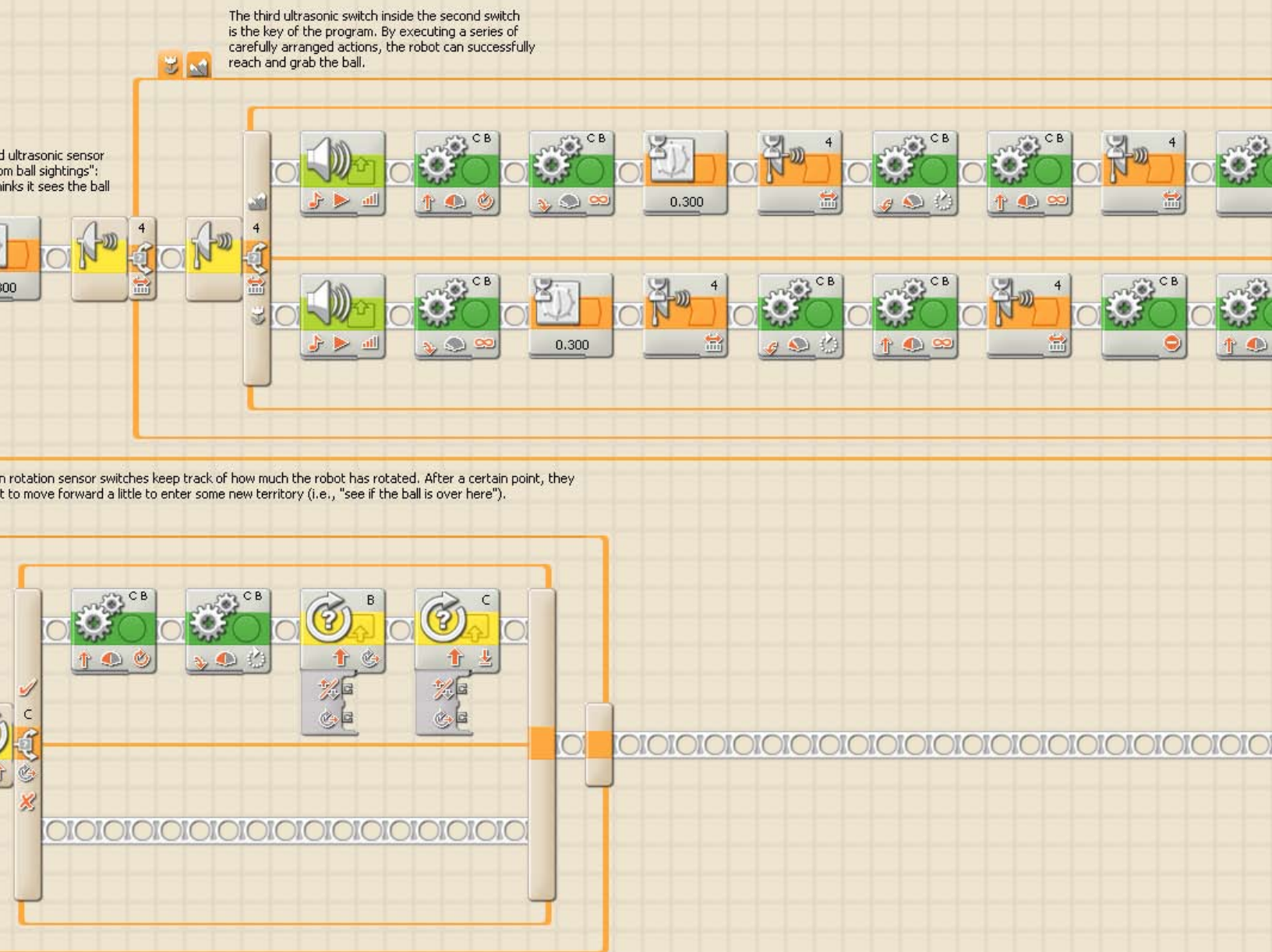
Second, place Clawbot on a spot in your house with a radius of five to six feet in which there are no other objects besides the ball. If there were other objects in the area, the robot might detect those instead of the ball.

Third, begin by placing one of the NXT balls about a foot or less from the robot anywhere around it. Run the "Clawbot" program on the NXT, step back a couple of paces (you don't want it going after you!), and watch what happens. When the robot has detected the ball, it should maneuver very close to it, stop, open up its claw, move forward, and close its claw around the ball. After giving a triumphant beep, the program ends. Take the ball away from the robot and position it one-to-two feet away somewhere in front of it, preferably more to its front right side (the robot tends to travel in this direction). Again, just run the program on the NXT, step back, and watch.

Clawbot can't detect balls that are farther out than a few feet, and its program leads it to spend most of its time in areas to the front and right of its starting point. For this reason, you should place balls relatively close to the robot, but experiment and see what results you can achieve. In addition, Clawbot sometimes unsuccessfully attempts to grab the ball, doesn't properly maneuver to the ball, or simply doesn't see the ball. If these instances occur, simply stop the robot and start over or in some cases wait to see if the robot will



and grabbed the ball.

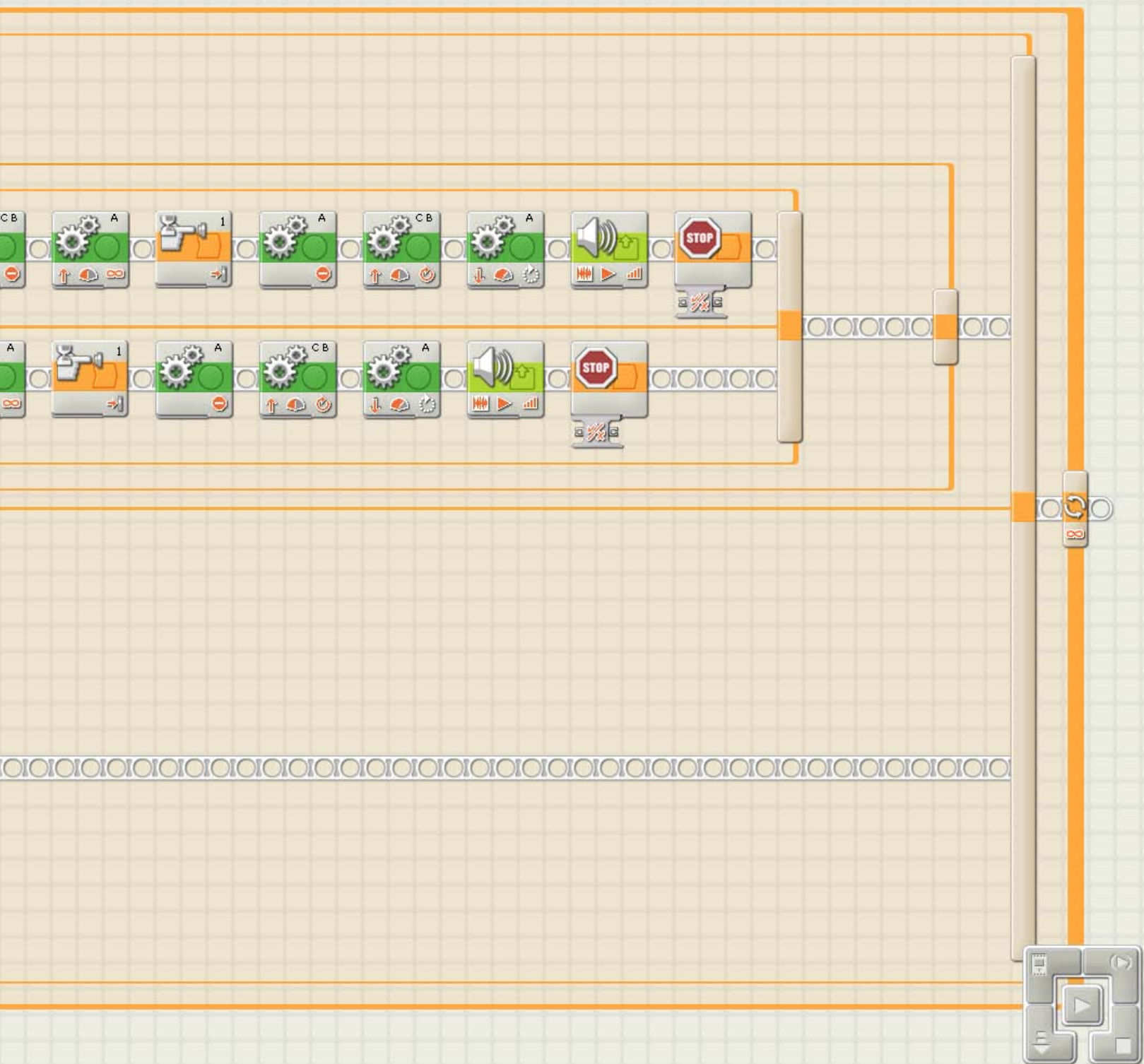


detect the ball at a later point. Also, the level of battery power in your NXT can affect the robot's performance (see the program itself for more information).

Going Further: Maximizing Clawbot Performance


Like most projects, Clawbot is a complete yet unfinished project. In other words, there is always room for improvement. Specifically, there are several areas in which great potential lie, and I encourage you to investigate these possibilities:

- **Transporting the ball.** Once Clawbot has found and "grabbed" the ball, moving the ball somewhere else would be a nice feature: for example, carrying the ball back to the robot's starting point or dropping the ball off at some other specified location.
- **Grabbing other items.** The ball included in the NXT set is actually difficult for the ultrasonic sensor to detect. It is round and relatively small, and both of these factors make ultrasonic sensor detection more difficult. What other relatively small objects could Clawbot find and grab? You could redesign the claw on Clawbot to accommodate another item's shape.



• **Searching for an item with advanced techniques.** Finding an object can be a difficult task for an NXT robot, but it is accomplishable. Employing additional sensors (like the new compass sensor) and advanced programming are ways in which Clawbot could more effectively search for a ball in a room.

What Will You Make?

In conclusion, you've seen an example here of how to modify an existing MINDSTORMS creation into a unique and functional invention. Now it's your turn. Whether you decide to modify a creation or make your very own invention, what will *you* make? The LEGO community is waiting to see more great NXT robots, and you can post your inventions at the NXTLOG on the official MINDSTORMS website. Good luck on your robotic projects, and remember the most important objective: have fun! 

You can download the NXT-G program for David's robot by going to: <http://www.davidjperdue.com/files/clawbot.rbt>




NXTeeny: A Smaller Bot!

Model by Joe Meno.

Instructions by Glenn Nilsson.

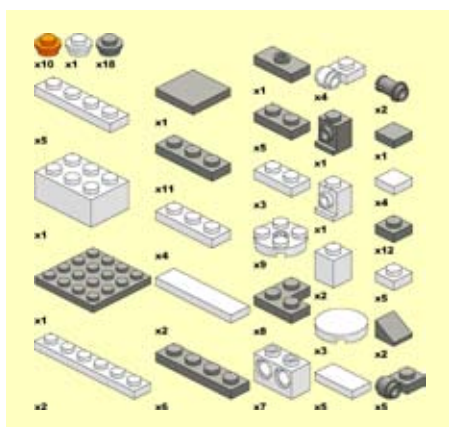
I got an NXT set and have been tinkering with it since the summer. It's been a constant cargo, going with me to my place, to my parent's place, and even to a couple of events that I have been involved with. However, I wanted to make a mini version of Alpha Rex, the humanoid robot since I built it with the NXT.

The biggest challenge was sizing down the components of the NXT set - motors, NXT programmable brick, and sensors. The first sensor I built was the ultrasound, as that would define the scale of the model. From there, the rest of the model was easy - the motors actually became neat little models in their own right when I finished them. The end result is not only a model of Alpha Rex, but can be broken down to the NXT parts, so could be possibly used to rough out simple NXT designs.

There is one model I completed that was given to Michael Brandl, an NXT builder, at Bricking Bavaria last year. Now anyone with the parts can build it - so enjoy! 

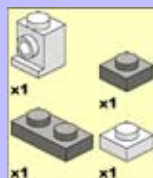
**You Can Build It:
Mini NXT**

Parts Needed

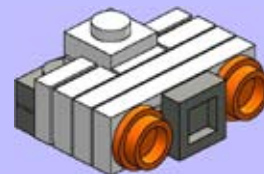


Head

1

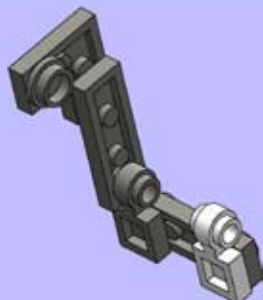


2



Arms

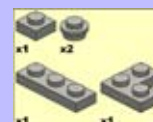
3



4



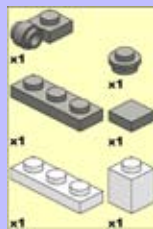
5



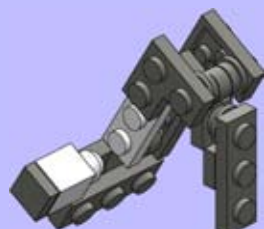
6



7



8



If you want to find out more about NXT building and programming, you can go to the following blogs:

The NXT Step:

<http://www.thenxtstep.blogspot.com/>

NXTbot.com

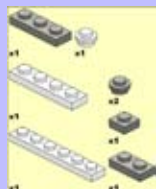
<http://www.nxtbot.com/>

NXTasy.org

<http://www.nxtasy.org/>

Arms

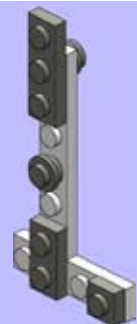
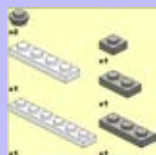
9



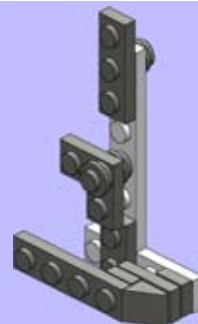
10



11



12



Motors

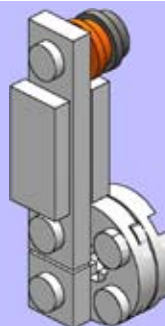
13



14



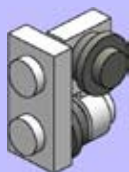
15



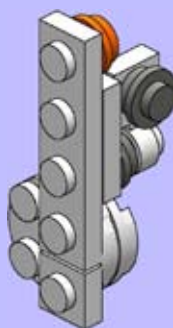
16



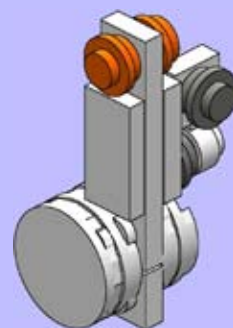
17



18

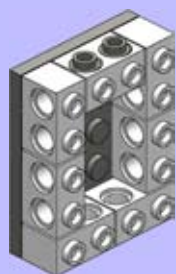


19

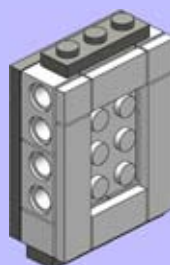


NXT Brick

20



21

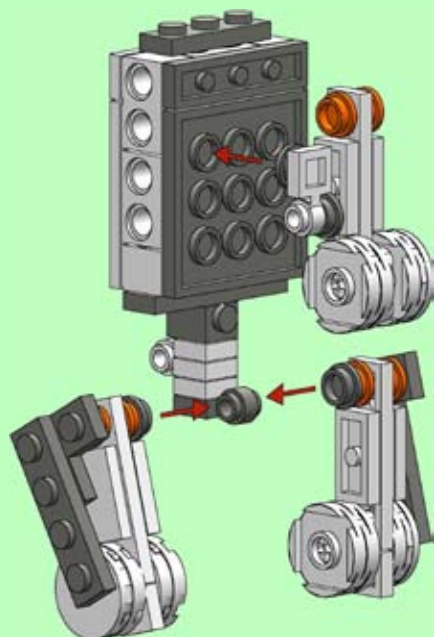


22

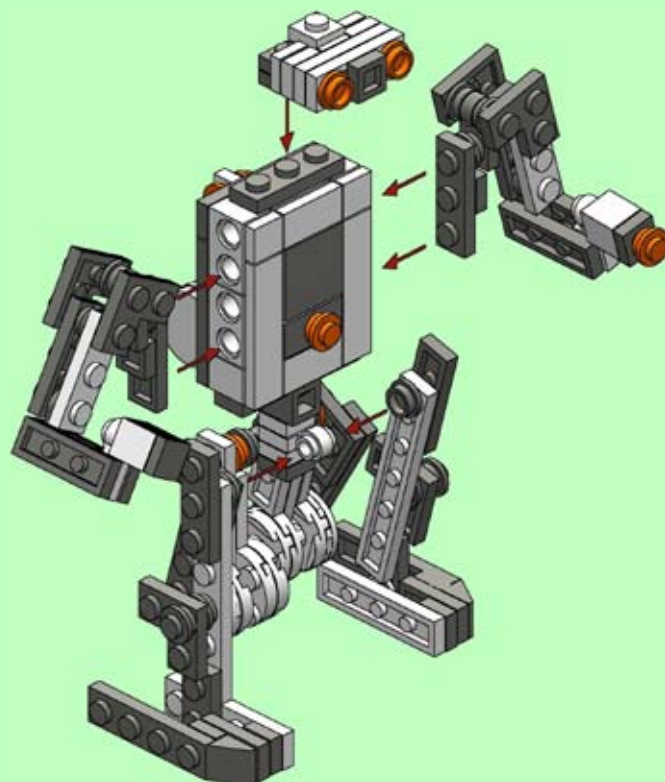


Putting it All Together

23



24



You Can Build It: Battlestar Galactica


Colonial Land Ram

Model and Instructions by Christopher Deck.
Renders by Glenn Nilsson

Hello again, dear fellows!

Some of you might already have wondered if this crazy mini builder only built starships from the Star Wars Universe. This is a reasonable question, as there are usually more ships than land vehicles in a Science Fiction series, as Star Wars is currently my main building field. Hence I decided to show you something different this time. A side project of mine focuses on the classic Battlestar Galactica series. The few official vessels are well-known, such as the Colonial Viper and Battlestar, and the Cylon Raider. You can already find these models, complete with instructions, in my BrickShelf folder (<http://www.brickshelf.com/cgi-bin/gallery.cgi?m=Legostein>).

One of the very few land vehicles of this series is the Colonial Land Ram, a solid and sturdy tracked vehicle, which is what I am presenting to you here. Here are some general thoughts: a key piece of this model is the modified 1x2 tile with handle, a really great part for creating angled structures, as you will see.

If you use those pieces flipped like a SNOT brick, this will lead to measurements which are difficult to smooth in that scale, such as half plate heights. The cockpit section of this vehicle shows a solution for using 1x2 handle tiles in a SNOT way. Also, the treads really work!! I wish you happy building and see you next time! 

— Christopher Deck



Chassis

1



2



3



4



5



6



Cockpit

1



2



3



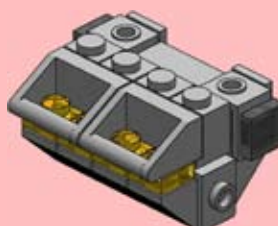
4



5

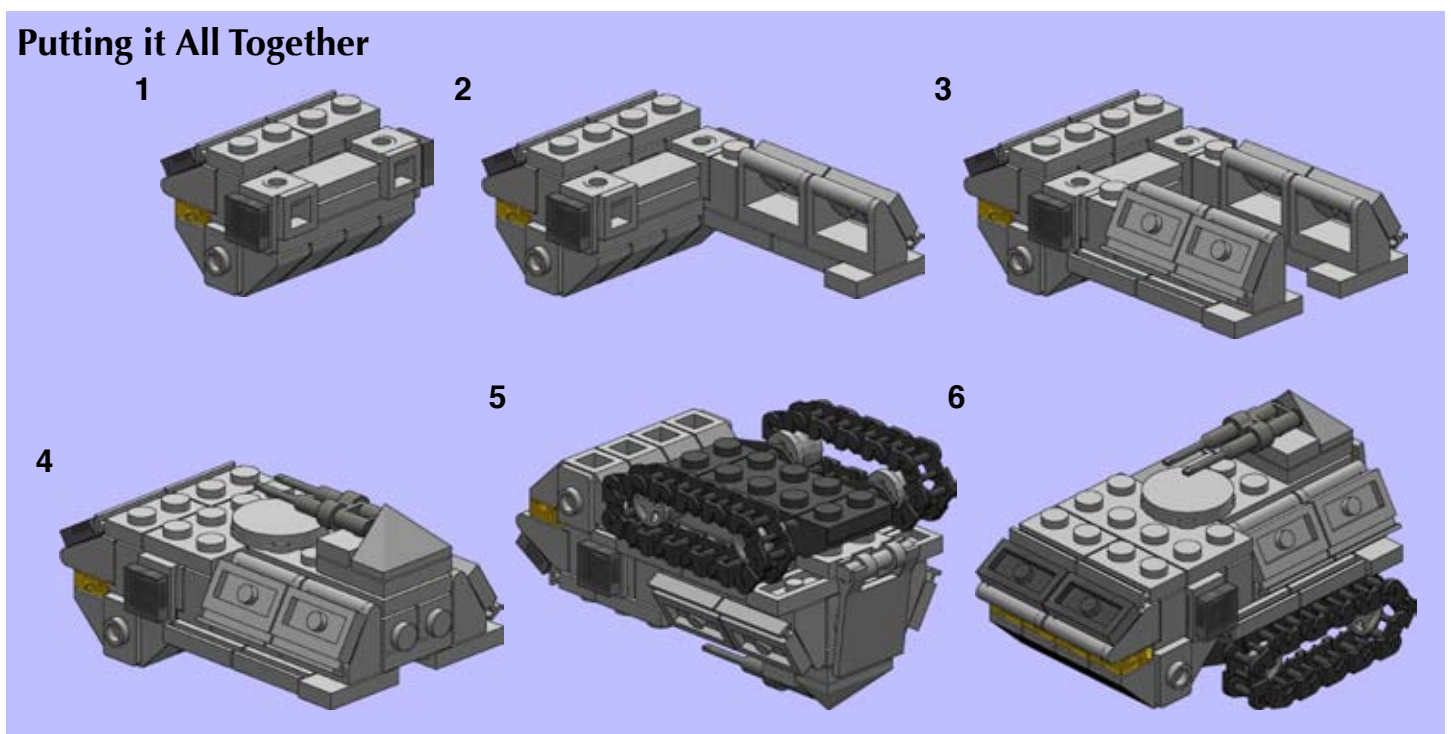
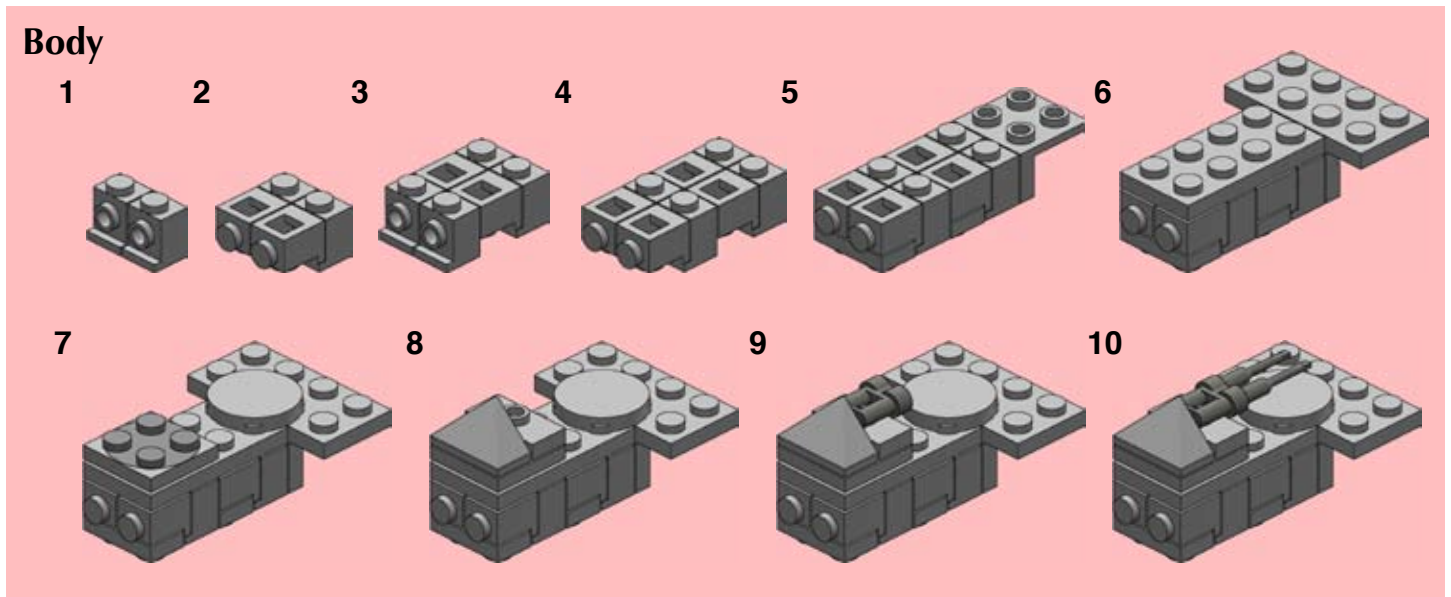
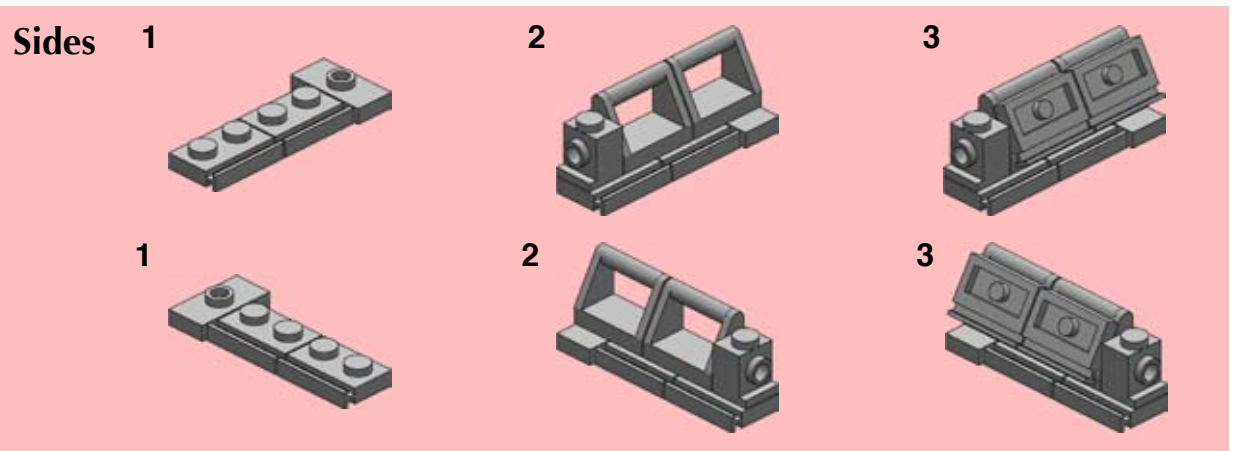


6



7





Macro Digital Photography

One of the toughest challenges for a minifig builder is photography. Here, Jared Burks takes a look at how to make photos that 'pop'!

*Article and photos
by Jared Burks*



Figure 1 – Macro Photo: *In this figure we find two custom figures sparring. They are sporting custom made sabre hilts made by Deathstickman of FBTB and MCN. Notice the clarity of the photo and the reduced shadows. When you take a picture be sure to examine the details.*



Figure 2 – Camera settings: *1. Note the location of the automatic settings as denoted by the A. To select this setting turn the dial to the A. 2. Note the location of the macro setting. Typically it is activated by depressing the button next to it twice, which results in the presentation of the flower icon on the LCD screen.*

Having followed the information in the last two editions of *BrickJournal*, you have successfully created your own custom Minifig. Now it is time to share that creation by photographing your finished figure. Typically we share these creations online; digital photography lends itself to this task. Photographing any small objects require that we think about a few important concepts and that we have a basic understanding of our digital camera. With a few simple tips you can dramatically improve the pictures you take with your camera. This article is directed at *macro* digital photography and is by no means an all inclusive guide to digital photography. The point of this article is to help the typical user improve their digital photographs using a basic digital camera, so if you are a camera buff you might pick up a trick or two, but this is likely to be a review. In this article we will break down digital photography into 3 major sections:

I Digital Cameras

II Photo Studio

III Picture Editing (The Basics)

I Digital Cameras

Every digital camera is slightly different, but they all have a few common elements; a lens, digital storage media (film), and typically a flash. Not all cameras use these three elements in the same way, so it is important to know how your digital camera works, especially as they all have unique or proprietary features. If you can't find your camera's users manual check out either the manufacturer's website or these quick guides (www.shortcourses.com/guides/guides.htm). I know what you are thinking: "Why do I have to read some user's manual if you are about to teach me how to do it?" You will need to know how to turn on and off the special features we are going to discuss for your camera. The quick guides' site has an extensive database about digital photography and I highly recommend it if you have additional questions (www.shortcourses.com).

The greatest piece of advice I can offer when using your digital camera is that if a photo doesn't turn out as you had hoped, just delete it and take another picture. Take advantage of the power of digital photography, instant feedback; learn from the way you take your pictures. Don't be afraid to experiment, the pictures you publish will represent your work; make them as nice as your custom figure. With the instant feedback of digital cameras, a photographer should NEVER display a poorly lit or blurry image.

This article will assume that you are using your digital camera on the automatic setting, meaning the camera is choosing the exposure time, aperture, focus, and white balance. If you don't know how to set your camera to the automatic setting, please refer to your user's manual or the guides listed above, but in most cases you will turn the dial on the top of your camera to the A setting, see the figure to left.

Macro

When photographing a Minifig you should get the camera as close to the Minifig as possible, with few minor exceptions. The reason for this is that the figure will be larger in the final image, and after all that is what you are trying to take a picture of to share with others. The minimum focal distance of your camera determines this distance; if you get too close the picture will be blurry (This distance is likely in the user's manual for your camera). There are two ways to get close to the figure; one is to use your zoom lens, which has its drawbacks, and the other is to use the camera's macro setting.

Remember that digital and optical zoom are not the same. Digital zoom sacrifices pixels, which translated directly into image quality and resolution. Optical zoom uses magnification offered by a lens to increase the size of objects while not affecting the number of pixels collecting data. So if you decide to use the zoom options always and only use the optical zoom. The macro setting uses a lens to reduce the minimal focal distance of the camera, allowing you to place the camera closer to the figure than normally possible. The macro and zoom lenses can be used in conjunction with one another and we will go into the advantages and disadvantages of these options shortly. By getting closer you can fill or nearly fill the screen with your figure. Remember if you can't fill the screen with your figure you can always crop out the unwanted region of the image, however this will make the final image smaller.