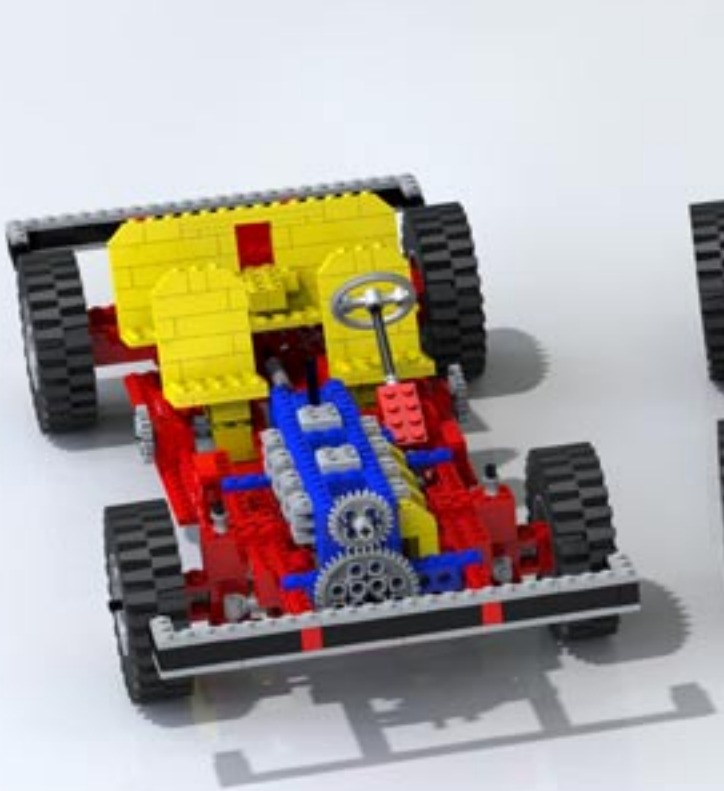
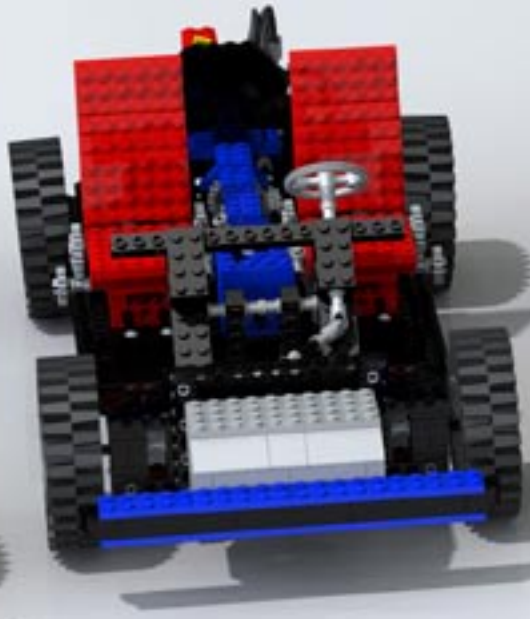
LEGO® TECHNIC 5





956

Released in 1977
590 Elements

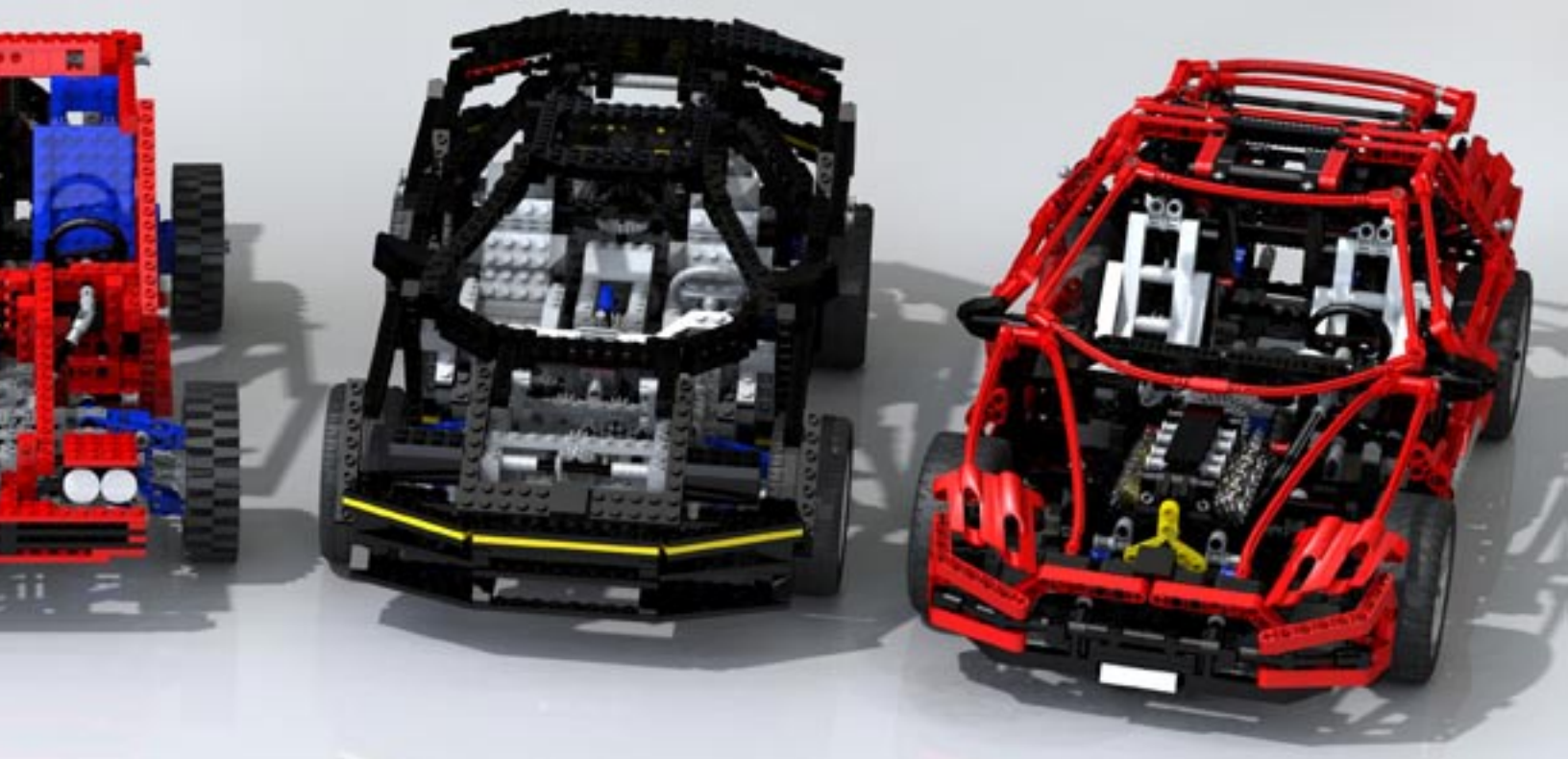
8860

Released in 1980
662 Elements

886

Released in
802 Elem

upercars



65

n 1988
ents

8880

Released in 1994
1343 Elements

8448

Released in 1999
1408 Elements

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Building Instructions for Your Models

With a model created in MLCad, it's easy to create directions using LPub, a program that generates instructions automatically. Geoff Gray finishes his tutorial model here.

Figure 1

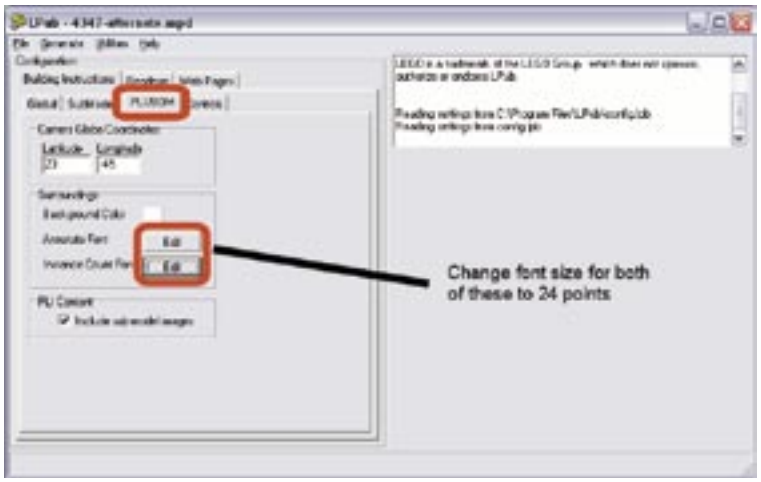


Figure 2

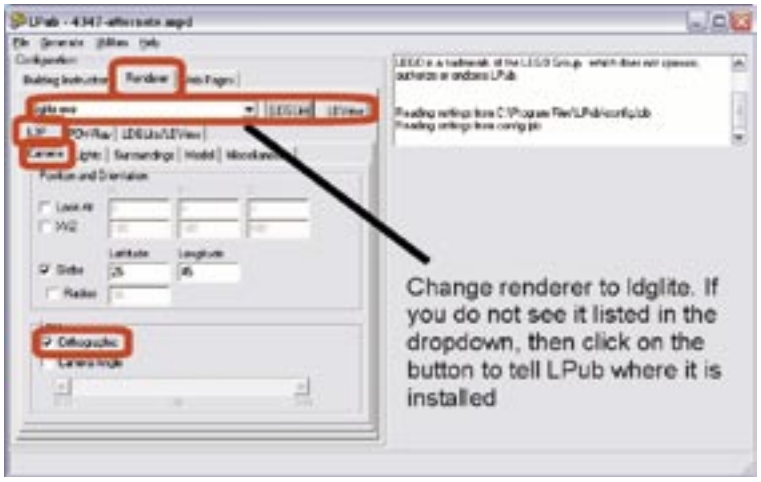


Figure 3

After creating your model with MLCad, it is time to build some instructions. We will use Kevin Clague's LPub to do this. This tutorial is simply an introduction and does not begin to cover a lot of the advanced features available through LPub, but it will give you enough information to allow you to quickly create instruction sets. When you start LPub, you will see a screen like Figure 1 (note, you must have POVRay and LDraw installed in order to run LPub. If you get prompted to locate folders or files, please select them as appropriate). I will walk you through the steps necessary to get the instructions built for the 4347 model. You can explore any other settings as you wish. here are some tips and hints:

- CSI stands for Construction Step Image
- PLI stands for Parts List Image
- BOM stands for Bill Of Materials
- Images created by LPub have a default resolution of either 72 or 96 dpi. To use the images in a print format, you should change the resolution to 300 dpi. You must do this in a photo editor after the images are created.
- The Distance setting will be something you must play with to get the right images. This specifies the minimum distance that the camera must be from the part/model to create the image. If you are too close, you can get parts lists with huge elements, and if you are too far away, you can get extremely small images. There is a "Min Camera Distance" tool under the "Utilities" menu. This will tell you a good starting minimum distance for the model. The distance for the Parts List Images will most likely be smaller.

To start our work, first open the building instructions you made by choosing "File -> Open LDRAW File". Select the instruction file you created for the 4347 MOC. Then set the values shown in the following screenshots.

All that is left to do is to render the images. Go to the "Generate" menu and select "Complete Model". This will generate a single image of the finished model. You can then go to the "Generate" menu and select "CSIs, PLIs and BOM" which will generate all of the instruction steps and parts images, as well as the Bill Of Material. This selection will build images based on which boxes are checked in the "Generate" section of the main screen (see Figure 1). Next, you can try the "Layouts" option from the "Generate" menu. This will create images that have the construction picture, the parts list for the step and the step number all together. Once that is done, you can choose "Layout Web Pages" from the "Generate" menu to create HTML pages for use on your web site.

• When creating images with POV-Ray, the POV-Ray render window will open and you will see each image as it is generated.

• When creating images with LdgLite, there is no render window visible. You will see updates in the information window in LPub.

• When creating instructions, LdgLite is preferred over POV-Ray since it automatically creates outlines around the parts, making the steps and elements easier to see and identify. POV-Ray is more appropriate for final images, or for radiosity rendering (see the article on Radiosity for more information)

Figure 5 shows the file folder structure for LPub. LPub will create a subfolder named "LPub" in the directory where you loaded the LDraw file from. Under the LPub directory are the folders that contain all of the images, web pages and data files used by LPub.

One last thing you will want to do with LPub before closing is to save the configuration information. LPub allows you to change any of the settings and store those separately for each model. Go to "File" and choose "Save Local Config". LPub will create a file in the model's directory called "config.lpb" and will automatically load this the next time you open the LDraw file. That makes it very easy to go back later and rework some of the model.

Figure 4

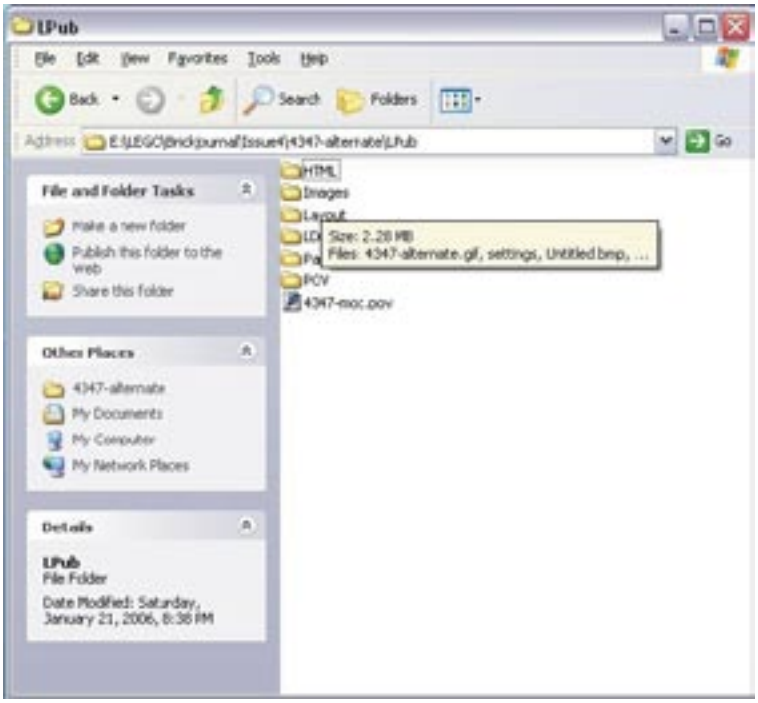
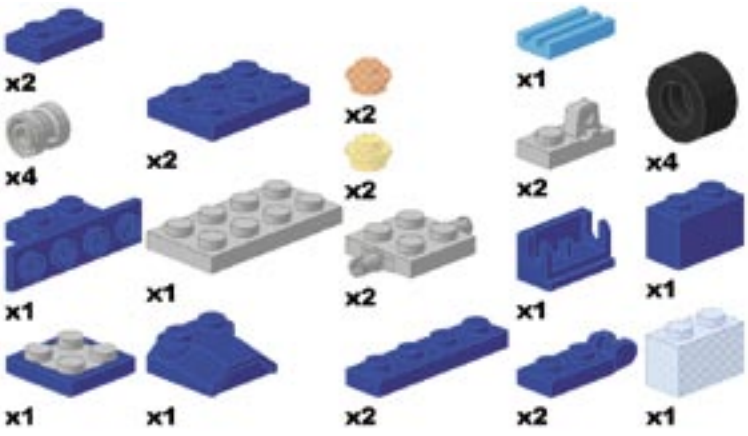


Figure 5



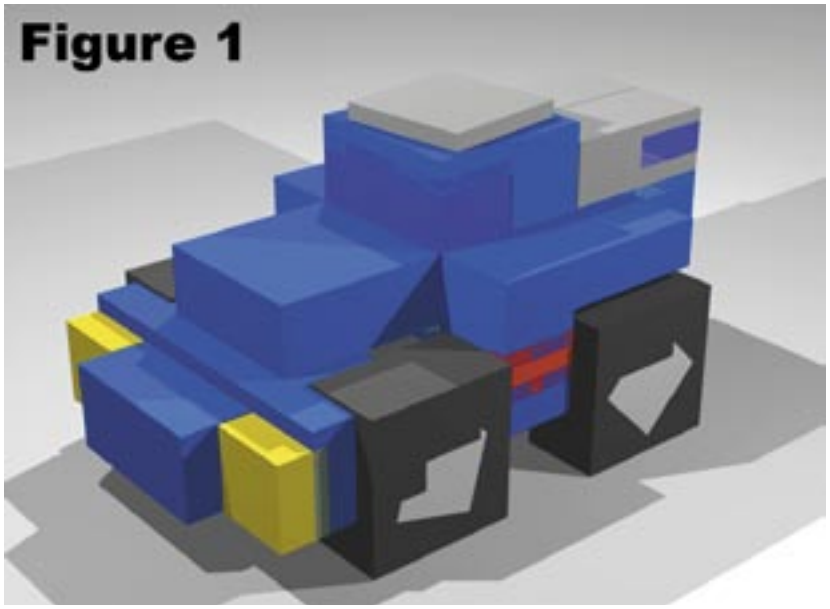
The Bill Of Materials from our model

A Sample Web Page

Radiosity

Learn how to make your renders really "POP"

Article and renders by Koyan Derudder. Model by Geoff Gray



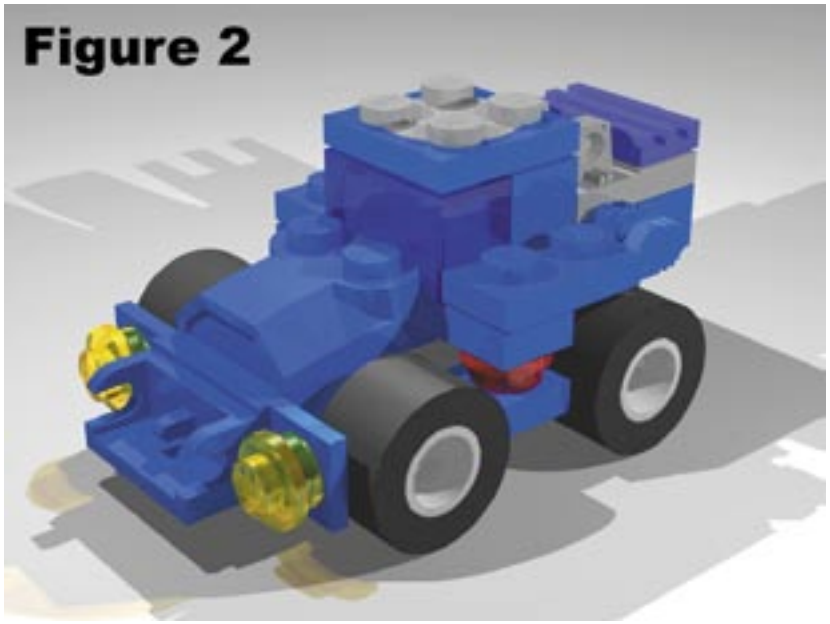
In this tutorial I'll explain how I make my renders. I'm sure it's not the best way, and it *definitely* isn't the fastest or most efficient, but it's how I do things these days. I'm constantly trying out new things, so this may soon be out of date, but it should get you nice results, and you can definitely use it as a spring board to make your own settings. (If you find a great new way of doing things, or of making the renders look better, do tell!)

1. The POV file

First we need to convert your model into a .pov file. I use L3P with its GUI (Graphic User Interface) add-on L3PAO. In this first step, we're just concerned with the mise-en-scène, which means we're just trying to find a place for the camera so we get to see the model from a nice angle, with everything in frame. The render itself doesn't need to look good; since we're going to be trying out different camera locations, it just needs to be fast, so we're going to use a quality setting of 0, which means everything will just be made out of big blocks (see *Figure 1*). Play around with the latitude, longitude, and camera angle. I usually use a value of about 30. Play around and see what looks best to you.

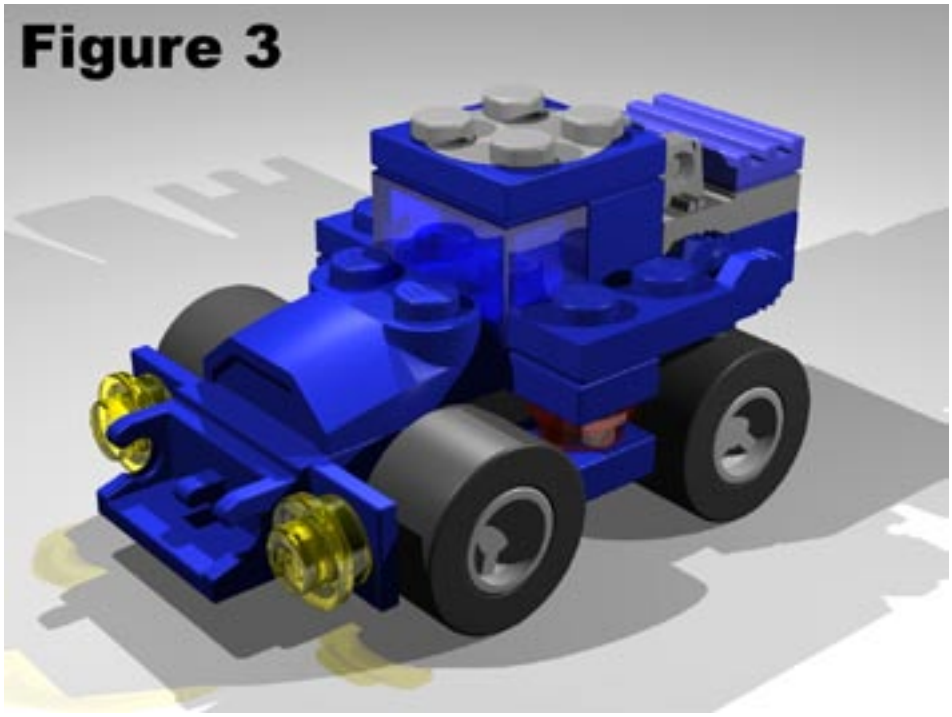
2. Better parts

The LDraw parts library is great for modeling, but some of the parts are too low-res to make nice renders. There are others out there with nicer parts, though, like LGEO and Anton Raves' library. LGEO support is already built into L3P, so we'll use that.



LGEO doesn't contain all the parts that LDraw does. L3P just uses the original LDraw file for those, and some still won't look that good. There's an excellent little program that can fix a lot of them: Mesh Enhancer. It just smooths out the creases. You can just use it on a complete .pov-file, but I recommend just using it on those parts that need it, since some parts lose detail when you run them through it. Just select the code of the part in the .pov-file, run Mesh Enhancer, and paste the transformed code over the original.

* There are still a few mistakes in the LGEO library. Lars Hassing has fixed some of them. You can download them at http://www.hassings.dk/l3/lgeofix.html.



* LGEO is an old library. A lot of the parts in it have since been updated. For instance, once upon a time there was only one kind of Slope Brick 45 1x2: part 3040. These days, that part has been superseded by 3040B, while 3040A is the same part, but with some differences. When L3P-ing a file, the newer 3040B part won't be substituted by an LGEO part. So before running L3P, I like to replace those parts with their older equivalents. Some parts, like 4085A, 4085B and 4085C are very close, and it's usually no problem to substitute them for a render. But some parts, like 4081A and 4081B, look similar but are actually quite different. Choose carefully which parts to change.

Figure 2 shows you how the model looks rendered with LDraw parts. Figure 3 is the same model, but rendered with LGEO parts. (Just run the model through L3PAO again, but with the LGEO option enabled, and the same camera coordinates.)

3. Better Colour

As you can see in Figure 2, the colours look all washed out. LGEO uses its own colour definitions, so in Figure 3 they're already a lot better, but it's still not perfect, and later on, when we'll be using radiosity and hdr lighting, they won't look at all convincing.

I use the colour definitions of Todd Lehman (http://guide.lugnet.com/color/), (plus a few I've made myself, like bley, bred and various rubbers). You can find a complete archive of Todd's colours at <http://guide.lugnet.com/color/povray-20021003/lg_colors.tar.gz>. My additions, plus an include file that maps them to reasonable numbers in MLCad, are in the includes-directory. Just download and unpack everything to a directory, and then add the following line to POVRAY.ini:

```
Library_Path="\path\to\colour\directory"
```

Then, in your .pov-file, remove the line that says

```
#include "lg_color.inc"
```

and replace it with

```
#include "koyancolours.inc"
```

If you render it now (Figure 4), the colours just look a lot more reflective, but still not quite right. That's okay. You'll see the difference when we apply better lighting. So on to the next step.

Software Needed

The following programs need to be downloaded and installed in order to use the tutorial here.

L3P (http://www.hassings.dk/l3/l3p.html)

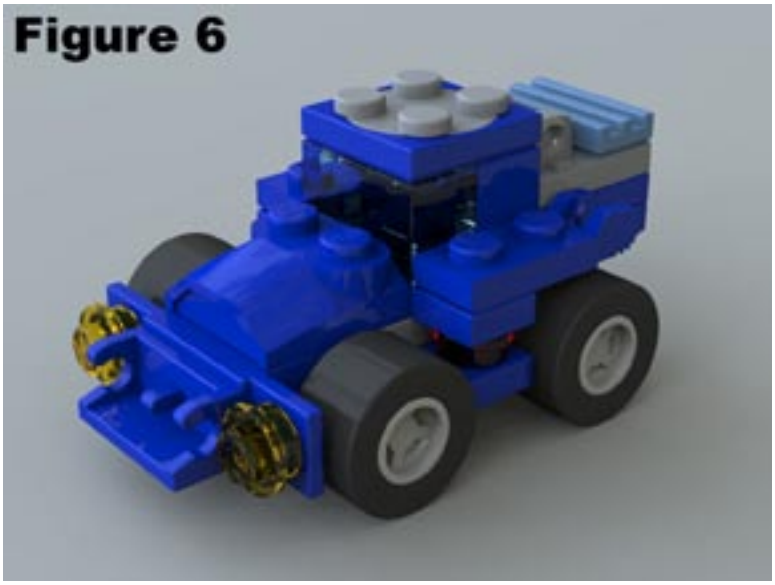
L3PAO (http://l3pao.malagraphixia.com/L3PAO.htm)

POV-Ray (www.povray.org).

LGEO (http://www.el-lutzo.de/lego/lgeo.html)

Mesh Enhancer (http://members.aol.com/elferwette/LDraw/)

MegaPOV (http://megapov.inetart.net).



4. Radiosity lighting

With radiosity lighting, we place a huge lit sphere around the model, so that light comes from all around, instead of just a few unnatural looking lights. Delete any lights that are currently in the .pov-file, or your render will look much too bright, and then just put the following lines in at the start of your .pov-file:

```
#version unofficial MegaPov 1.10;

#declare LDRAW_RAD_LEVEL = 5;
#declare LDRAW_MTL = 10;
#declare INDEXOFREFRACTION=1.52;
#declare LDRAW_RAD_NORMAL = off;
#declare LDRAW_RAD_MEDIA = off;

#include "rad_def.inc"
global_settings {
  assumed_gamma 1.4
  max_trace_level LDRAW_MTL
  adc_bailout 0.01/2
  radiosity {
    Rad_Settings(LDRAW_RAD_LEVEL, LDRAW_
RAD_NORMAL, LDRAW_RAD_MEDIA)
  }
}

sky_sphere {
  pigment {
    gradient -y
    color_map {
      [ 1 rgb 1 ]
    }
  }
}
```

Do play around with the settings. Now the render looks like *Figure 5*.

In the standard .pov-file that L3P creates, all parts have an ambient and diffuse value of .4. This means that a part will emit a bit of light, even when there's no light hitting the part. When rendering using radiosity, all parts automatically get an ambient value of 0, and a diffuse of 1. This makes it look much more realistic. Be sure to change the amb and dif values of the floor, though, since this won't change automatically!

It's pretty nice, but still looks sterile. Check out the transparent parts; they don't have anything interesting to reflect. That's because the whole skysphere is just evenly white. So let's move on to the next section.

5. HDRI lighting

An HDR (high dynamic range) image or lightprobe simulates a more natural environment. The lighting, but also the reflections, will be more realistic. You can download a few free lightprobes from www.debevec.org. First, remove all the lights that are in the scene. Then, change the skysphere definition from:

```
sky_sphere {
  pigment {
    gradient -y
    color_map {
      [ 1 rgb 1 ]
    }
  }
}
```

to this:

```
sphere {
  <0,0,0>,10000
  pigment {
    image_map { hdr "lightprobe.hdr" once interpolate 2 map_type 7 }
  }
  finish { ambient 1 diffuse 0 }
  hollow
}
```

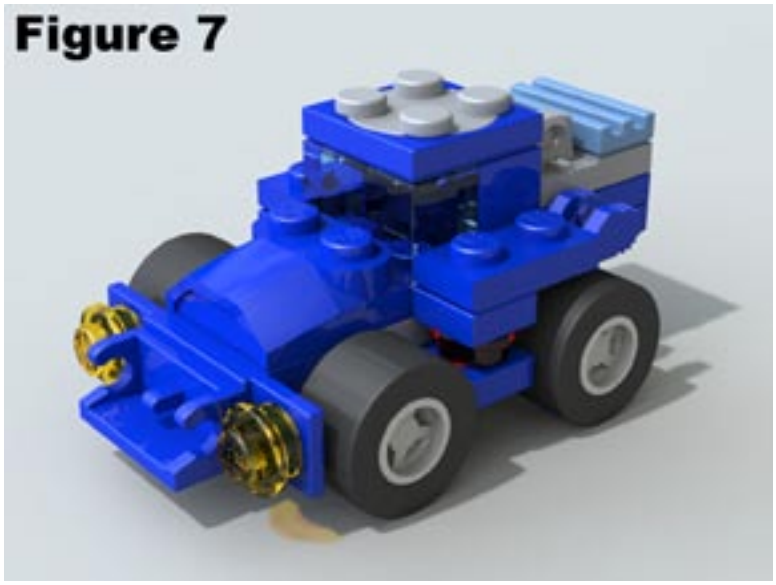
Again, play around with the settings. I'm using a sphere here, because the version of MegaPOV that I'm using doesn't accept hdr-images as textures for a skysphere. That may change in a future version. The map_type depends on what kind of hdr-image you're using. There are different kinds of projections that can be used to make one. Read more about it at www.debevec.org. Map_type 7 is used for a spherical lightprobe, like the ones that can be downloaded from there. The ambient value defines how bright the hdr is. The render should now look like *Figure 6*.

6. Area light

You may want to add a direct light as well, to add more depth or to highlight a few details. If you want to get nice, soft shadows, you can't just put in an ordinary light, you'll need an area light. An area light consists of several point lights. You can change the settings to use more or less point lights and expand or decrease the area, to make the shadows softer or harder. For instance:

```
light_source {
  <-5000,-5000,-5000>
  color rgb .4
  area_light 200, 200, 10, 10
  adaptive 1
  jitter
  circular
  orient
}
```

This looks like *Figure 7*.



7. Anti-aliasing

The standard Pov-Ray anti-aliasing doesn't look too good, especially if you use transparent or reflective materials. You can play with the AA-settings in Pov itself, but I usually just turn AA off altogether, render an image that's at least twice as large the image I want to end up with, and then resize it in Photoshop, or another graphics program that does bicubic anti-aliasing. You can see the difference in *Figure 8*.

Also, check out how much more smooth and realistic slopes and edges of bricks look.

And there you have it!

iBrick?

- or Building LEGO models on a Macintosh

While LEGOFactory is available in both Windows and Macintosh versions, LDraw files were almost exclusively the domain of Windows systems, until the release of Bricksmith. The creator of this program gave BrickJournal *an overview of the program.*

Article and art by Allen Smith

When I first discovered LDraw in 2000, it was more of a bittersweet moment than I would have liked. I was astounded to discover such amazing new possibilities in my lifelong Lego hobby. I was amazed by the incalculable hours of work that had gone into the part library. But my the joy was tarnished by the realization that LDraw wasn't a part of my other lifelong hobby: Macintosh computers. Worse yet, LDraw's DOS heritage pervaded the process. This wasn't a pastime for The Rest of Us.

At the time, however, I was an inexperienced freshman Computer Science major.

Thus powerless to affect the situation, there was little more to do than suffer with a slow Windows emulator and hope that some Mac programmer out there was hankering for LDraw too. As it happened, several such people were. But their efforts never reached the levels of usability and feature-completeness that I needed. In the meantime, my tottering copy of Virtual PC got so out of date it didn't run anymore, and I gave up onLDraw.

Then a funny thing happened. I graduated from college, got a job as a Mac programmer, and suddenly realized that I could write the LDraw editor I'd been dreaming of for five years. So after six months of coding, I unveiled Bricksmith, an LDraw editor for Mac OS X that finally allowed me to do easy Lego modeling.

Bricksmith is fairly straightforward to use, and you can probably just dive right in and start creating. But just in case, here's a Bricksmith primer.

Installation

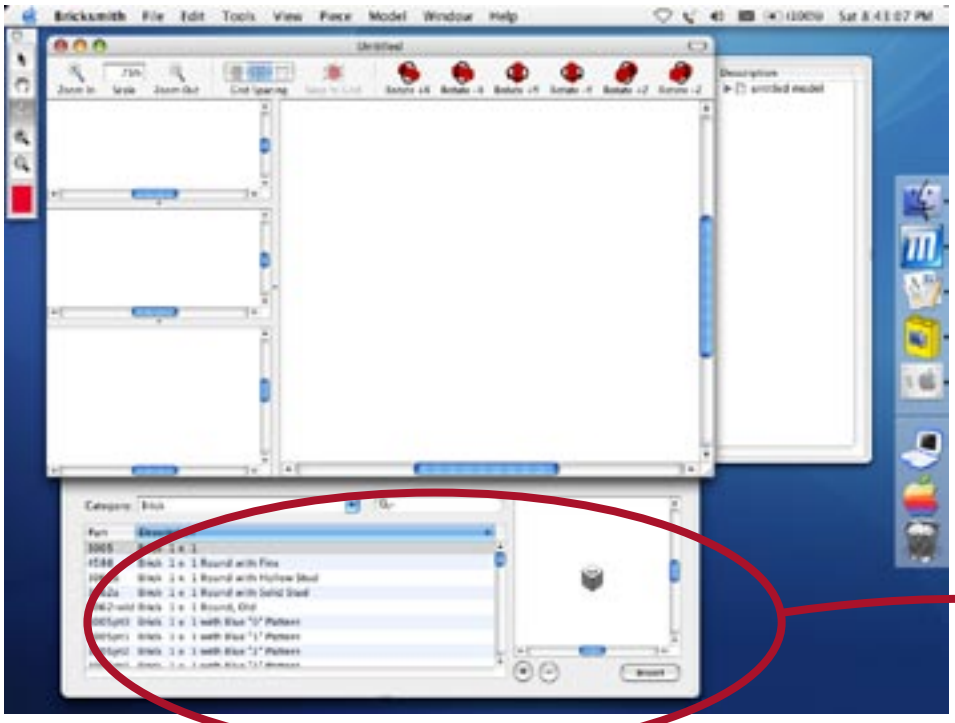
Presenting three easy steps to Bricksmith (with apologies to Jeff Goldblum):

1. Download Bricksmith at bricksmith.sourceforge.net.
2. Double-click.
3. There's no Step 3. There's no Step 3!

Really, that's it. As long as you downloaded the complete package, you can just copy the Bricksmith folder wherever you want it and double-click.

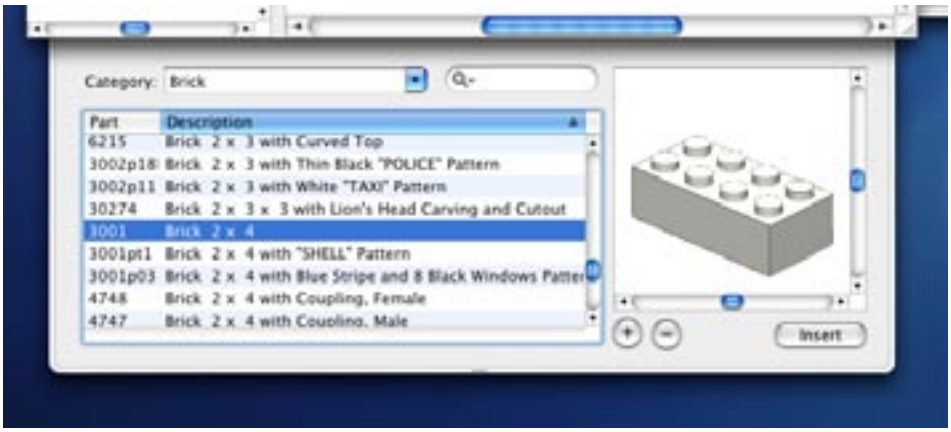
Making Your First Model

When you open Bricksmith, you'll see something like the following screen:



The drawer at the bottom of the document window is called the *Part Browser*. It presents Lego bricks organized by categories, such as "Brick," "Plate," or "Slope." Once you have chosen a category, the list can then be sorted by number or name. There is also a search field, handy for phrases like "Ice Planet" or for those occasions when you have the actual part number in hand.

In this case, let's insert a 2 x 4 brick into our empty model. LDraw parts are generally named by the pattern "Category size x size," so we're looking for "Brick 2 x 4."



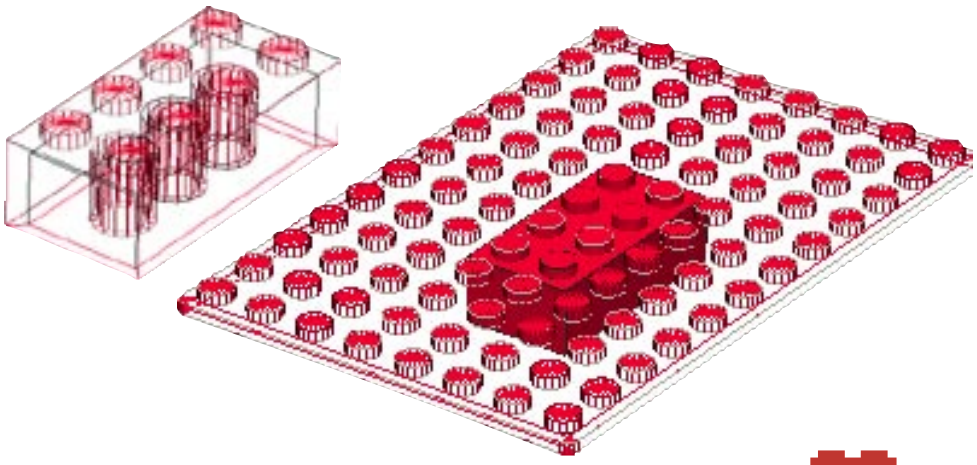
If we go to the Brick category and sort by part description, it's very easy to find. That little preview to the right is a spinnable 3D view, so you can inspect the part from any angle to make sure it's the piece you're looking for.

Now comes the moment you've all been waiting for: click the Insert button. The2 x 4 brick will appear in your model.

The brick is going to look a little odd. Since you just inserted the part, Bricksmith has politely selected it for you. Selected parts are drawn as a wireframe to set them apart from the other pieces in your model. As an additional bonus, you can see through the wireframe, which is very useful when attempting to precision-align parts. (To deselect the brick, just click outside it.)

Now add an 8 x 12 baseplate. You'll see that it appears on top of the previous brick. Bricksmith always inserts new parts at the same location as the previous part, which can be a little confusing at times. If you had a large part selected then inserted a small one, the new part could be completely inside the old one—just rest assured that it *is* there.

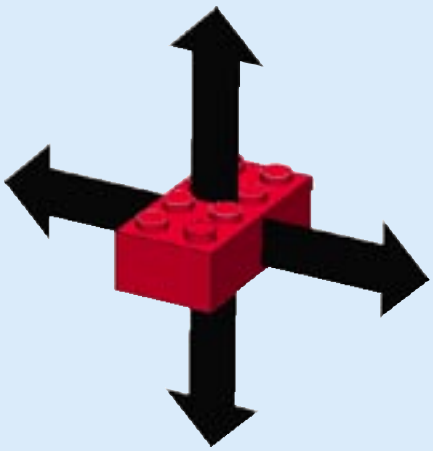
At any rate, we really need to learn about moving pieces now.



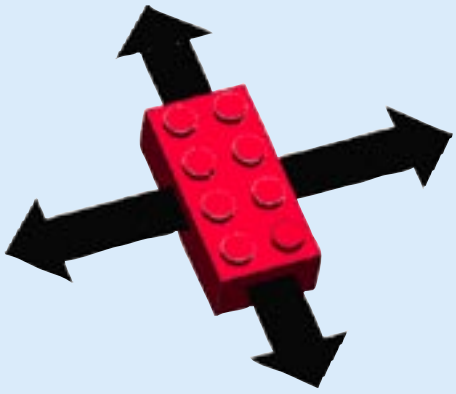
Brick Movement

All you need to do to move a brick is to click on it (to select it), and press the arrow keys the direction you want it to go.

The caveat is that computer screens are two-dimensional, and Lego models are three-dimensional. If you want to move a brick in that third direction, you must spin the model around so that the arrow keys align with the direction you want to move the part. To spin the model, just click in the model view and drag. It swivels around while you drag the mouse.

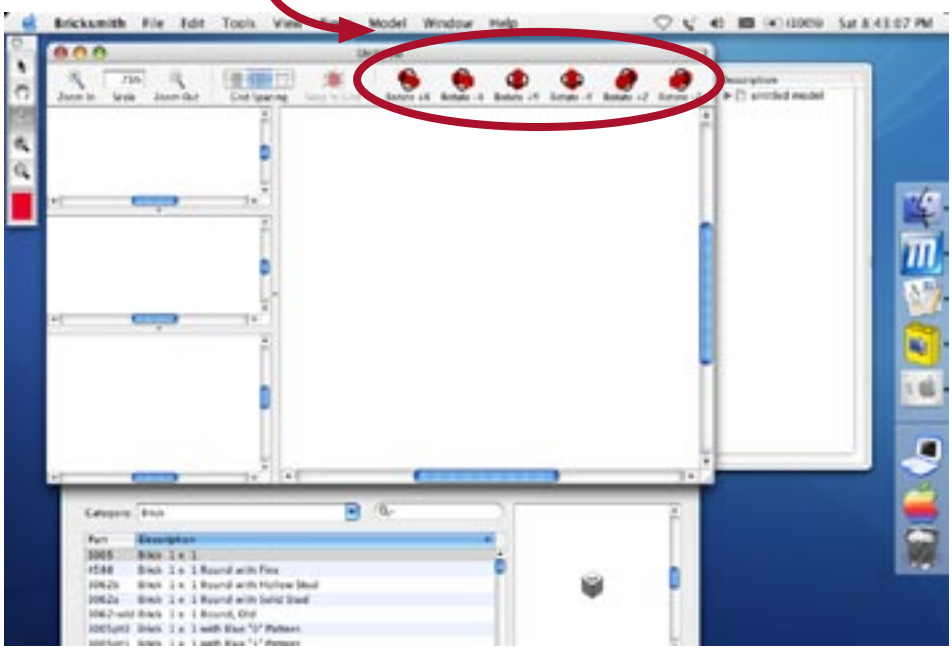


If you swivel the view around like this, then the arrow keys will be able to move up and down and right and left—just not in and out.



When viewing the brick from the top, the arrow keys will be able to shuffle it sideways, but not up and down.

The amount by which a brick moves is determined by the grid mode. The coarse grid moves parts by one stud, medium is half a stud, and fine is by 1 LDraw Unit, which is to about 1 pixel.



Once you have the brick about where you want it, you can rotate it with the buttons at the top of the window. The number of degrees it rotates are also controlled by the Grid Spacing.

Lastly, you'll want to change the colors of your bricks. Bricksmith displays the available colors by name, which makes it considerably easier to tell the difference between Earth Orange and Pearl Gold. You can open the color palette by going to the Piece menu and choosing Show Colors.

Advanced Part Tweaking

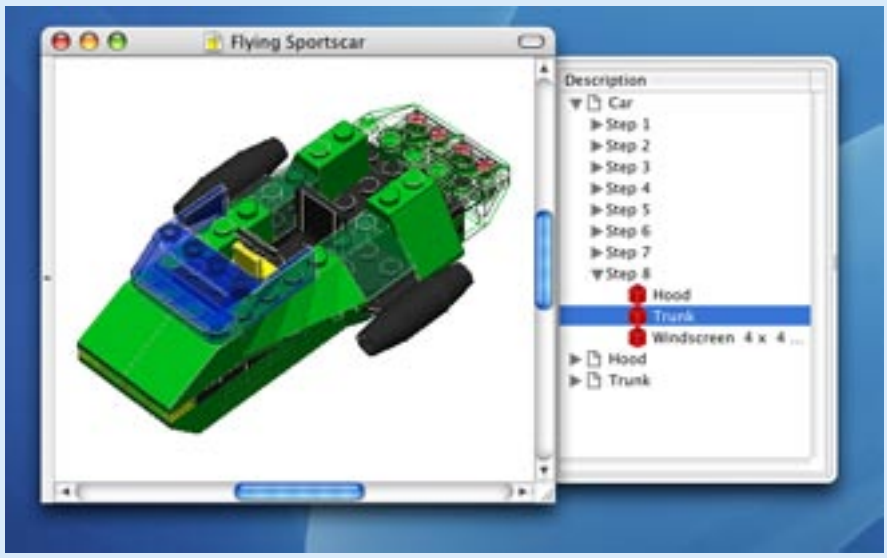
Sometimes the basic controls just aren't enough. That's why Bricksmith provides an Inspector panel full of juicy information about your selection. To see it, choose the Tools>Show Info menu.

With the inspector, you can fine-tune your part (or model, or triangle primitive, or whatever). The values are all presented in very human-readable numbers, protecting you from the mathematical unpleasantness in the LDraw file format itself. You don't need to know what a rotation matrix is to use Bricksmith!

Note: It is smart design sense to make sure that the foundational piece of your model (such as the baseplate) is centered at the location (0, 0, 0). If you don't do that, your model will appear to move weird places as you spin it around. That's because it always spins around (0, 0, 0)—the "origin" in mathematical parlance—so you want to keep things centered.

Model-Making

A good Lego model is more than just a collection of pieces. It is a carefully-organized arrangement of steps and subassembly models. When you conceptualize your model in that way, you can use Bricksmith to make instructions for your creation.



Steps

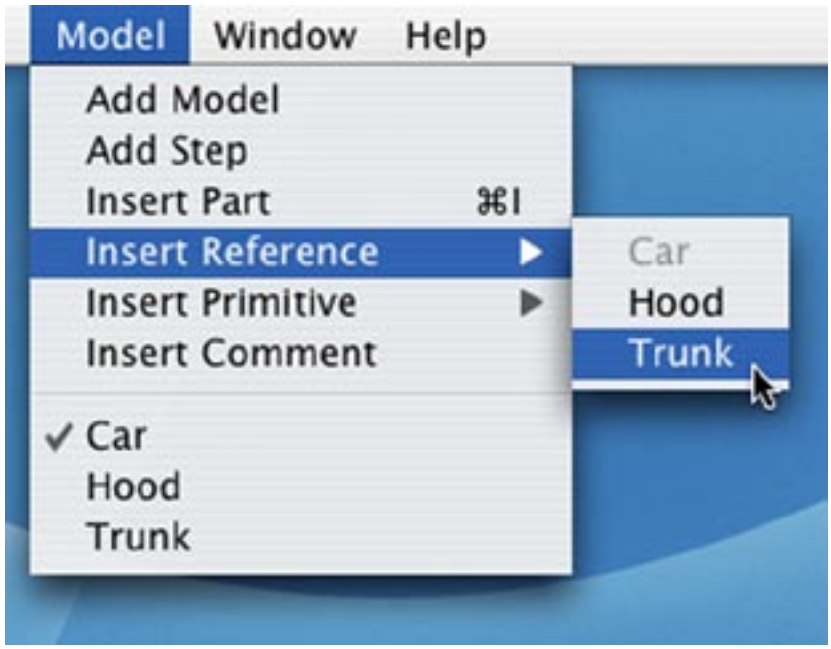
To add a step, choose the Model>Add Step menu. The new step will appear over in the File Contents drawer. To arrange parts, just drag the list items into the order you want.

To see the model being built up step-by-step, choose the View>Step Display menu. Then choose Next Step (□-]) repeatedly, or click on another step in the list to advance.

Submodels

The submodel is the most powerful feature in modelmaking. Creating a submodel groups a collection of parts together and allows you to insert it into another model as a single unit. For example, my flying car (pictured above) has three models: the main car, the hood, and the trunk.

To create a new submodel within your file, choose Model>Add Model. It will appear in the File Contents as "untitled model"; if you double-click it, the Inspector will open and you can provide a name and other standard information. You can then commence adding Steps and Parts to your heart's content. Once finished, go back to the main model by choosing its name from the Model menu. Then choose Model>Insert Reference>(your model name), and the submodel will appear in the main model as a single part.



Note: It is extremely important that you build your submodels around the origin (0,0,0). If you don't, they will position and rotate in very annoying ways when you are working with them in the main model.

Becoming Your Own Pixar

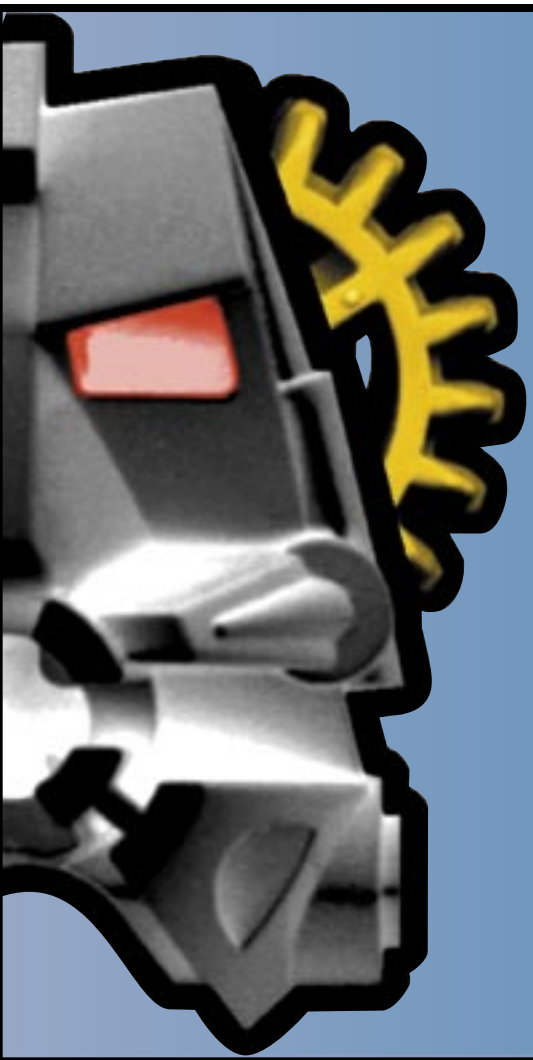
One of the most impressive things you can do with your finished LDraw model is to render it in the free raytracer POV-Ray. To do that, you need to convert the LDraw into POV-Ray format, a simple process which can be done with the L3P utility for Mac OS X. I recommend L3P Launcher, a graphical front-end to the L3P command-line converter.

You can find a link at my website.

You can also use the raytracer to make fine instructions for your creation, although that process is unfortunately quite complicated to do correctly—sufficiently soto lie beyond the scope of this article.

And in Conclusion…

Any Macintosh user will attest that the most important quality a Mac program can have is that indefinable Macintosh feel. Bricksmith may not yet have all the special features it could, but it is a fully functional LDraw editor for the Rest of Us. I'm delighted to have been able to write this program for the Mac-using Lego enthusiasts of the world. Happy building!



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BrickJournal Is Coming to Your Town...Layout!

In support of *BrickJournal*, ME Models has created a Delivery Truck (ME #1004) and a London Bus (ME #1005). Both models are sporting the exclusive *BrickJournal* logos, with proceeds from the sale of every model going to support the magazine. Each model comes in a sealed collector box with high quality laser printed instructions and decals. The models may be purchased by going to this website: **http://www.me-models.com.**

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People: Batbuilders

This year marks the release of a new theme to the LEGO universe: Batman®!

Before the sets, though, there were still Batmobiles and Batvillains made by LEGO builders.

BrickJournal *spotlights a few of the many Batbuilders, starting with Jeff Meadows, webmaster of www.Legionsofgotham.org, who got to preview the Batman sets...*

Articles by Joe Meno

Photos provided by the respective builders

BATMAN is a trademark of DC Comics.

Tell us about yourself. What do you do?
Well, my name is Jeff Meadows. I'm 33 years old, married (to a wonderful woman who allows me to pursue these hobbies), and a father of five children. I live in Omaha Nebraska.

I work for a company called Netshops. We're an online retailer - we're one of the fastest growing online retailers in America. Currently, we have over 100 different stores with more coming every day. I'm an operations coordinator, which is basically a problem solver. My main focus is to try to balance our profit goals with customer satisfaction - not an easy job by any means. I also fix pricing problems, description problems and try to resolve problems with vendors. I've never been happier at a job. It's always interesting and every day is different!

How long have you been a Batman fan? And how long have you been a LEGO builder?
I've been a Batman fan for as long as I can remember. I grew up watching reruns of the 60's TV show. I've collected everything at one point or another. My collection includes original art, comics, Mego toys, clocks, glassware, placemats, action figures, video games, bobble heads, hot wheels, etc, etc. As you can see, it's way beyond "fan" for me. I guess that's what led me to become a member of Legions of Gotham.

I've been a fan of LEGO just as long. My first set was either #730 - the Steamshovel with Carrier or #145 - which is a general building set. I still actually have both in their original boxes with the instructions. I'd get the occasional set for a birthday or holiday present, but it wasn't until the Space sets hit that I really developed into a LEGO collector.

When did you join Legions of Gotham?
I joined Legions of Gotham in 2004 if I remember correctly. I'd seen some Batman Minimates there and started posting as a result. I worked my way up to a Moderator, and eventually Matt (Legions of Gotham's owner) asked me to join the ranks of the Sentries, who are admin level super-mods.

How did you get into LEGO?
Really, it was the classic Space sets that did it for me. I grew up watching Star Trek reruns and later Star Wars, so Space was a natural fit for me. I've given most of my sets to my boys and they enjoy them just as much as I did back then!

How did you get involved with the LEGO Group and what has been called the Comic Summit?
I got involved as a result of my connection to Legions of Gotham. We were notified a number of months ago that LEGO was pursuing the Batman license. (MAN, was that a hard piece of info to keep quiet about!!) Matt mentioned that there was a 'planning summit' coming up, but he wouldn't be able to attend. He asked if I'd be interested in representing not only Legions of Gotham, but Batman fans everywhere? With an offer like that, how could I refuse? :D I talked to Steve a bit about my background and the rest is history!

What are your thoughts on the sets coming out?
They're GREAT! I think LEGO really nailed these sets and got the essence of the character down right away. As you've probably seen from the photos that have been circulating, there are lots of little details in each set. For example, Two Face's armored car set is split down the middle. One half has the studs hidden (I think "Snot" is the term?) and is smooth and unblemished. The other half has the studs showing. It's rough - just like Two Face. It really reflects the dual nature of the character and the horrible disfigurement that drove him insane.

What would you like to see in the future?
Hmm, where to begin? I'd love to see a Batman LEGO game like we saw with Star Wars.
As far as sets, I REALLY want a light up Batsignal and some roof tops with gargoyles. A Redbird (Robin's vehicle) would be a fun set to have. Crime Alley, additional levels for the Batcave, Wayne Manor, a 'Legacy of the Batmobile' retrospective type set, Batman XPods, Batman keychains...I could go on and on!

Character-wise, I think LEGO did a good job right off the bat (no pun intended) with their character selection. They put most of the big guns in the sets right away. Of the ones they left out, I'd like to see a Commissioner Gordon, Batgirl, Ras Al Ghul, Black Mask, Firefly, Mad Hatter, and Harley Quinn. (The rest like Clayface or Bane, would be either tough to make as a mini fig, or too obscure for the casual fan, like Lady Shiva or the Ventriloquist & Scarface.) Of course, I want to see all of the DC characters in LEGO form, so this is just a partial list.

Favorite Batman - animated, TV, movie?
Animated. When doing a live-action type Batman show or movie, something has always been missing in my opinion. Animation is the closest thing to seeing it in comic form, so for me, that's the best. (I don't care what animated version we're talking about either - they're all good in my eyes.)

Favorite LEGO set?
Wow! Great question!

Being a father of five, I REALLY like the XPods. They encourage the kids to be creative, they're portable and they entertain the kids for hours. The more you add, the more options for building. So these, from a parent's perspective are great. From a fan/personal point of view, my current favorite set is # 4766 - the Harry Potter Graveyard Duel set. Not because it's Harry Potter, but because it's a LEGO graveyard! I NEVER dreamed that I'd see something like that from LEGO. Not to mention that this will fit perfectly with my Batman LEGO universe - I'm pretty sure that Bruce Wayne's parents, Thomas and Martha, are going to end up buried in that graveyard... :D

How old are you and where do you live?
I am 16 years old and I live in Endwell, New York, United States.

What came first , LEGO or Batman?
I was a fan of LEGO far before I was a fan of Batman. I'm afraid the caped avenger was overshadowed at an early age by titans such as Iron Man and the Fantastic Four. I've been building with LEGOs since I was 4, and I got interested in Batman many years later.

What was the first Batman comic you remember?
My meager comic book collection never had a staggering number of comics, and the ones I did own, as I said above, were mostly Marvel comics. My interest in Batman arose after they started producing the movies.

What was the first LEGO set you built?
The first major LEGO set I remember putting together was the Beach Rescue Copter, from the early town series. It's a timeless classic!

What's your favorite version of Batman - movie, TV, comic or animated?
I believe my favorite Batman to date is *Batman Begins*. It's my favorite Batman movie so far. Or maybe it's just because of his sweet ride.

The Batmobile - side view

Favorite LEGO set?
Oh, you would ask this. I don't know if I have a favorite. If I had to pick one, I think it would be the Spyrius Robo-Guardian. I remember that birthday as though it was yesterday, and I still have the set assembled!

Batman set you would like to see?
I would love to see LEGO make a UCS-scale Tumbler from *Batman Begins*.

What else do you build?
From a very young age, I have enjoyed building Star Wars-inspired spacecraft and the like. Every once in a while, I try something different, and build something from a movie or a video game. That's how my version of the Tumbler came to be.

The Batmobile - rear view

What inspired you to build Batman models?
I was inspired to build Batman MOCs when the newest movie, *Batman Begins*, re-sparked that old flame. Like any kid, superheroes grew old, and I moved on to other things. The release of the latest movie made me want to capture a piece of the superhero world. Batman's new car seemed like just the thing.

Favorite Batman Villain?
Another tough one. I think I'll go with Mr. Freeze.

You can see his gallery at: http://www.brickshelf.com/cgi-bin/gallery.cgi?f=136534

How old are you and where do you live?
21, Fresno, California, USA

What came first, Batman or LEGO?
For me, Batman came first.

What was the first Batman comic you remember?
The Batman vs. Predator graphic novel

What was the first LEGO set you built?
I don't remember the very first, but my most memorable set would have to be an old LEGO airplane from which I would always take parts to build other things.

What's your favorite Batman in the comics, TV show, animated show, or movie?
Batman portrayed by Michael Keaton in Tim Burton's "Batman" and "Batman Returns" is my favorite.

Favorite LEGO set?
Any of the pirate sets from the early 1990s remain my favorites.

Batman Set You would like to see?
I would like to see the "Batman Returns" Batmobile/Batmissle.

What else do you build?
I have also built designs based on "Stargate SG-1", and various models from "Star Trek", including the Enterprise-D Bridge seen in the Star Trek: The Next Generation LEGO fan film, "Captain's Nightmare".

What inspired you to build Batman MOCs?
I built my first Batman MOC, a Batmobile based on the 1989 Batmobile, for my fan film "Batman: Revenge" in 2003. Following that came the Batwing from the 1989 movie, and Batmobile models from "Batman Forever", "Batman Begins", "Batman: The Animated Series", and the 1966 television series "Batman".

Favorite Batman Villain?
The Joker is my favorite villain.

Jonathan also made a movie (Batman:Revenge) with his Batman models, which has been seen online worldwide.

What inspired you to do a Batman movie?
I've always loved filmmaking. The inspiration for "Batman: Revenge" came from the desire to make a Batman film, and to have the film resemble the gothic style of the two Batman feature films I loved the most, "Batman" and "Batman Returns".

How long did it take?
Pre-production, principle photography, and post-production took about three months. The first day of shooting was on October 17th, 2003, and the film premiered on December 12th, 2003.

What was the hardest part of production?
The most challenging, while at the same time educational part of production during "Batman: Revenge" was filming it in stop-motion animation. The slightest bump of the camera or the set on which the camera was resting could slow down production significantly. As all animators know who have made stop-motion films, patience is crucial for successful animation.

How has the film been received?
The movie has been received very well and I'm really proud to have a film that people of all ages can enjoy. Many parents have told me they appreciate having a film they can watch with their children, and I love hearing things like that.

You can find Jon's gallery at:
http://www.mocpages.com/home.php/2258

or his site: www.jonathanmarkiewitz.com

How old are you and where do you live?
28, Portland, Oregon

What came first, Batman or LEGO?
LEGO

What was the first Batman comic you remember?
An old 1970's Batman's Detective Comics that my cousin had.

What was the first LEGO set you built?
Set 6650 Fire and Rescue Van, I got it in England when I was 4.

What's your favorite Batman in the comics, TV show, animated show, or movie?
Adam West - Forget the fancy body armor, he's got spandex!

Favorite LEGO set?
6046 Dark Forest Hemlock Stronghold

Batman Set You would like to see? Batmobile from the 1990's Batman: the Animated Series

What else do you build?
Anime and video game inspired designs

What inspired you to build Batman MOCs?
I was impressed by the latest Batmobile design.

Favorite Batman Villain?
Danny DeVito as 'The Penguin'

You can see his gallery at:
http://www.brickshelf.com/cgi-bin/gallery.cgi?f=137857

Joslah Harlow

The Batmobile by Joslah Harlow

To the Batcave!

How old are you and where do you live?
18, Ithaca, NY

What came first, Batman or LEGO?
LEGO

What was the first Batman comic you remember?
hmmmm.....don't think I've actually ever read a Batman comic.

What was the first LEGO set you built?
4011 Cabin Cruiser

What's your favorite Batman in the comics, TV show, animated show, or movie?
Michael Keaton in the 1989 Batman movie

Favorite LEGO set?
6561 Hotrod Club

Batman Set you would like to see?
The Tumbler from Batman Begins

What else do you build?
Lots of space and science fiction along with just about everything else

What inspired you to build Batman MOCs?
I really like all of Batman's vehicles, and I wanted them in LEGO.

Favorite Batman Villain?
The Joker

You can find Mike's gallery at:
http://www.brickshelf.com/cgi-bin/gallery.cgi?m=mikepsiaki

Mike Pslaki

The Tumbler

Inside the Tumbler

The Batwing

The Batwing's Cockpit

The Batmobile

Norbert Black (no card available)

How old are you and where do you live?
I'm 44, and I live in Ottawa, Ontario, Canada.

What came first, Batman or LEGO?

Lego (although I've probably been a Batman fan for a longer period of time).

3. What was the first Batman comic you remember?

"The Brave and The Bold" #59 (April 1965).

http://www.comics.org/details.lasso?id=19070

4. What was the first LEGO set you built?

It would have been one of the mid-1960s Samsonite sets, I suppose. I also have fond memories of receiving childhood Christmas presents of Lego sent by my German grandmother.

5. What's your favourite Batman in the comics, TV show, animated show, or movie?

The winner is Paul Dini and Bruce Timm's stylish "Batman: The Animated Series" (Warner Brothers, 1992-94). I love its voice acting, characterization, and Dark Deco look. DC's now-cancelled "Batman Adventures" comic (based on the Dini/Timm show) runs a close race for second place.

6. Favourite LEGO set?

Scary Laboratory (set 1382 of 2002) - it had clever and whimsical minifigures combined with the Mad Science of yesteryear - what's not to like? :)

7. Batman Set You would like to see?

I don't have one, since sets are a costly and rare luxury for me these days. Fortunately, since my creative focus is custom minifigures, I get by using parts from my existing collection, supplemented by occasional small BrickLink orders.

8. What else do you build?

Customized minifigures based on favourite anime, comics and manga characters; 4-wide cars; small Train/Town MOCs based on rural southern England, circa 1911.

9. What inspired you to build Batman MOCs?

I was inspired by:

a) the simple but compelling physical design of Lego's minifigure,

b) "Batman: The Animated Series", which also looks deceptively simple yet is very powerful visually,

c) the slowly increasing colour spectrum of available minifigure parts, which means I can create more new characters (Batman-related or otherwise) each year.

10. Favourite Batman Villain?

My favourite villain is Mister Freeze (but *only* as he's portrayed by the 1992-94 animated series). My custom Mister Freeze minifigure (otherwise complete for 5 years now) still awaits the coming of Lego minifig hands in purple...

You can see Norbert's gallery at:
http://www.brickshelf.com/cgi-bin/gallery.cgi?f=113917

Batman by Norbert Black

The Joker

How old are you and where do you live (City, state, country)?
I'm eighteen years old and I live in Saginaw, MI.

What came first, Batman or LEGO?
That would have to be Lego. It wasn't until the Batman animated series came out that I started getting into it.

What was the first Batman comic you remember?
It was the one with Bane (the Incredible-Hulk-looking guy addicted to steroids) and how he broke Batman's back. It was a little sad to see such a great hero hurt, but Batman came back better than ever so I think it was a really good chance to see that Batman is still very much human.

What was the first LEGO set you built?
Does Duplo count? Ha ha. No really, the first set I can remember is one of the first Lego police stations. I was always interested in police and criminals so it was a natural favorite.

What's your favorite Batman in the comics, TV show, animated show, or movie?
Nothing beats Adam West yelling "Hurry Robin; to the Batcave…we haven't a moment to lose!" But I think my favorite Batman would be Michael Keaton in *Batman* and *Batman Returns*. Plus no one can outdo Jack Nicholson playing the Joker.

Zachary Sweigart

Favorite LEGO set?
Hmmm…That's a hard one. I might say one of the original Model Team sets because they really inspired me to build large-scale cars, but I'll have to wait and see if the Ultimate Collector's Series Batmobile takes the cake.

Another Batmobile

Which Batman Set You would you like to see?
A nice, big, Batmobile from the original Keaton films. Nothing beats that car, ever.

What else do you build?
Oh, I dabble in a few Star Trek MOCs here and there and I made a Delorean once that a few people thought was kinda sorta cool.

What inspired you to build Batman MOCs?
Well, jeez, they gave Spiderman his own sets. And since Batman has far better vehicles and stuff, why not?

Favorite Batman Villain?
The article with Bane was a great one, but no one beats the Joker. He is by far the best Batman villain ever.

You can find Zach's gallery (take a look at his comics!) at:
http://www.brickshelf.com/cgi-bin/gallery.cgi?f=162780

Zach's Batmobile

The Animated Batmobile

How old are you and where do you live (City, state, country)?
18 years old, and I live in Tulsa, Oklahoma, USA. Currently residing in Oklahoma State University, Stillwater, Ok.

Patrick Biggs

What came first, Batman or LEGO?
LEGO, for sure. I made giant roller-skating Duplo robots before I was out of diapers. As for Batman, I got into him when I discovered the Animated Series.

What was the first Batman comic you remember?
You know, I never was a big comics guy. My Dad has a box of old Gold and Silver Age comics, and the one I liked the most involved Batman somehow killing the Flash. Not sure if that's a real comic, or even Batman, but I distinctly remember being a little kid and wanting to know why Batman did that.

What was the first LEGO set you built?
The first actual set I remember building was the Forest Men Tree Hideout, or whatever it was called. It opened up, and closed so you could have them in it, or not. Man, that was cool. And the little guy with the arrow, and the target? Oh yeah.

What's your favorite Batman in the comics, TV show, animated show, or movie?
Animated Series. Before they added the "Detective Batman" aspect to the show. The Phantasm movie was my absolute favorite after I saw it in theatres.

Favorite LEGO set?
I'm about to kill my LEGO coolness, but man, I really dig Bionicle sets. Moreso the older sets, my favorite still being the original Toa Kopaka.

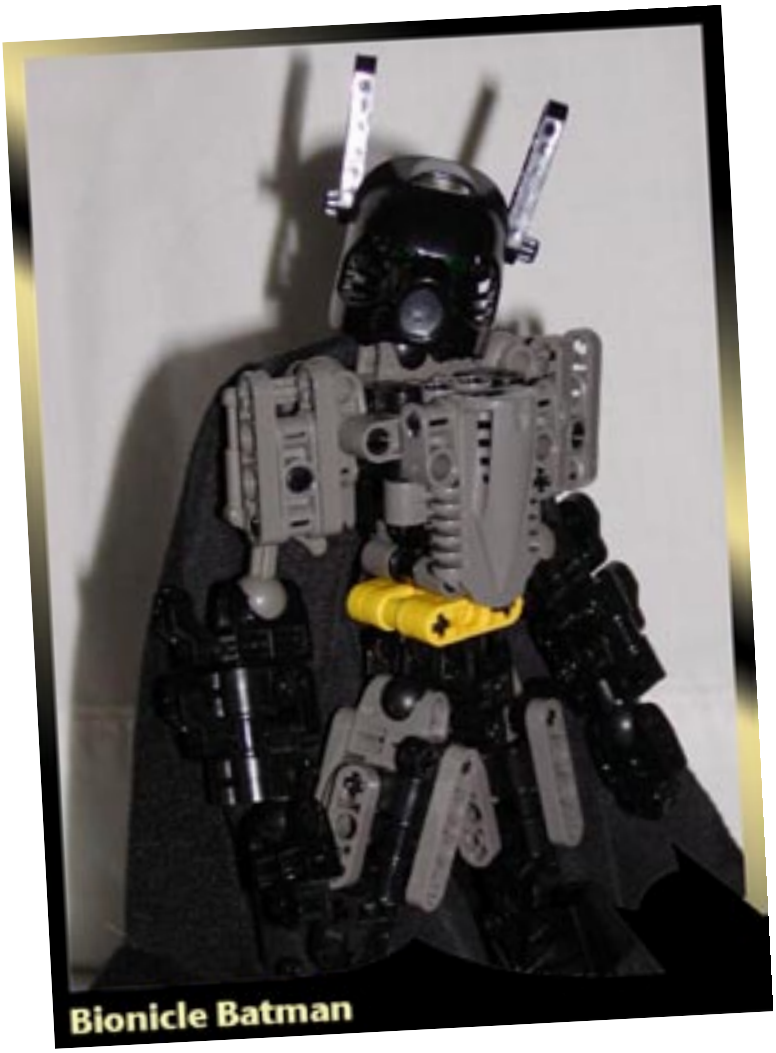
Batman Set You would like to see?
Something with Man-Bat.

What else do you build?
Mostly, I build Bionicle-based MOCs, my focus being on what many of my peers describe as a "Neo-Toa" look. Something about the noble bearing of a toa gets me deep inside. I definitely dig the whole "Adventuring Knights" feel the original toa had, and so I try to bring that out in my MOCs.

What inspired you to build Batman MOCs?
Batman was my favorite superhero.

Favorite Batman Villain?
Man-Bat.

You can find his gallery at:
http://www.brickshelf.com/cgi-bin/gallery.cgi?f=51132


Bionicle Batman

Erik Varszegi

How old are you and where do you live?

38. The Enfield CT area.

What came first, Batman or LEGO?

Batman. My brother and I were raised on comic-books. But since he was the older one of us and *his* favorite was Batman, he declared that I had to pick Superman as mine. Hey, Superman is great but he doesn't have the car.

What was the first Batman comic you remember?

I'm sure that I had earlier Batman titles but the one story that stuck with me was "Death Flies the Haunted Sky" in *Detective Comics* no.442 (Sept. 1974) by Archie Goodwin and Alex Toth. No super-villains, just a great little mystery solve for the Dark Knight Detective.

You can read the story with Toth's annotations here on his website. http://tothfans.dynu.com/showarticles.asp?ctg=3&fldAuto=328

Where it began...

It must have been something about the almost minimalist high-contrast inking of Toth's layouts that struck me visually as a young reader. The style suits Batman very well. I just loved those old *Detective Comics* from the early 70s. 100 pages for 60 cents, you couldn't go wrong with that.

What was the first LEGO set you built?

First LEGO set? Believe it or not the first *sets* that I built were most likely the Aquazone, Explorien or Wild West lines from when I first got hired by LEGO. I had some bulk buckets growing up that I remember building skyscrapers and what not with. But I think if I were a little younger or if Space and Castle was launched a little earlier I would have been a lot more involved with the brick during my formative years.

What's your favorite Batman in the comics, TV show, animated show, or movie?

Comics; particularly Frank Miller's Batman: Year One, a great re-telling of Batman's early career. And much like the Goodwin/Toth tale I mentioned above, David Mazzucchelli's artwork fits perfectly with the mood of the Caped Crusader.

I was pleased to see a lot of the feel of Year One preserved in *Batman Begins*. The psychological development of Bruce's character in the film seemed very plausible to me. It makes me wonder how any child in the real world who has witnessed such a tragic event isn't running around out there with a cape busting heads.

Favorite LEGO set?

Being an artist, I think I gravitate more to the sculptural *Model Team* type sets. Having said that I really like the Sopwith Camel even with the top wing falling off all the time.

Batman Set You would like to see?

How about a series of sets based on the old *Brave and the Bold* comics. Every month LEGO would release a new set that that would team Batman up with a different DC hero to do battle with a DC villain with some nefarious doomsday device. All right...that's not going to happen but it would be a great way to stock up on some cool mini-figs.

Batman Before

What else do you build?

Unfortunately, I don't get much of a chance to build stuff of my own choosing. But I guess I'm lucky that the things that I am asked to make are really cool and I get a chance to put my own spin on a project and make it my own.

What inspired you to build Batman MOCs?

Who hasn't tried to build a Batmobile with LEGO bricks before? I made this one back in 97 as part of a series of Superhero themed MOCs that I built with a friend and LEGO employee who is also very into comics.

Not very good by today's standards but I had fun with it.

Favorite Batman Villain?

I probably most identify with Two-Face. No, I am not horribly scarred, it's just when I go out to eat I can't just seem to make up my mind. Should I get the baked potato or should I have the rice pilaf? Let's flip for it.

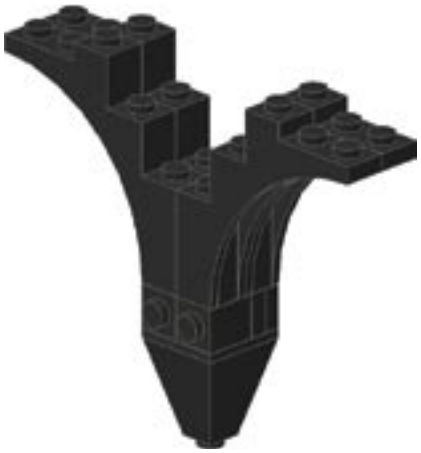
Erik's gallery can be found at: http://www.brickshelf.com/cgi-bin/gallery.cgi?m=Ik-Var

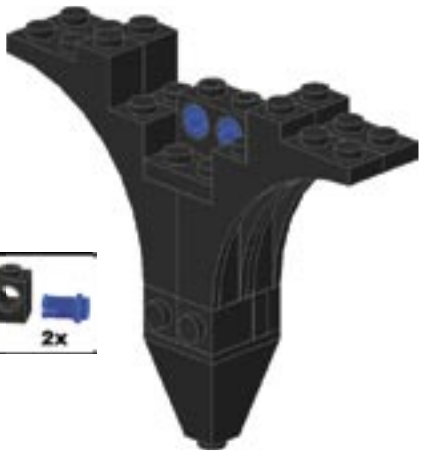
Photos by Jim Foulds

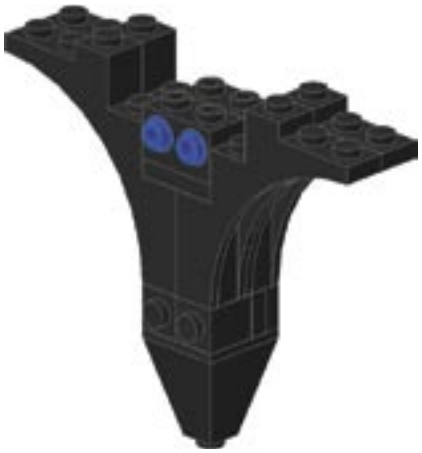
Batarang

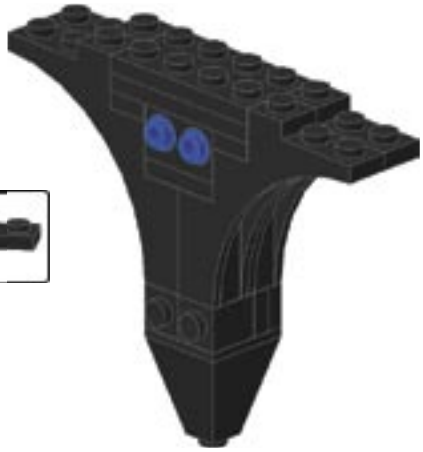
"Holy Brick Building, Batman!"

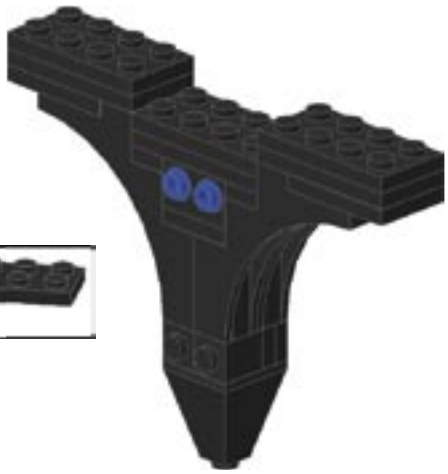
When The LEGO Group recently announced that they were partnering with DC Comics to release a new series of sets based on Batman, one of TLG's master builders went to work creating a life sized statue of the caped crusader. Later he redesigned the batarang used in the model. BrickJournal *was lucky enough to get a copy of Erik Varszegi's model. Now you can build the same way the masters do!*

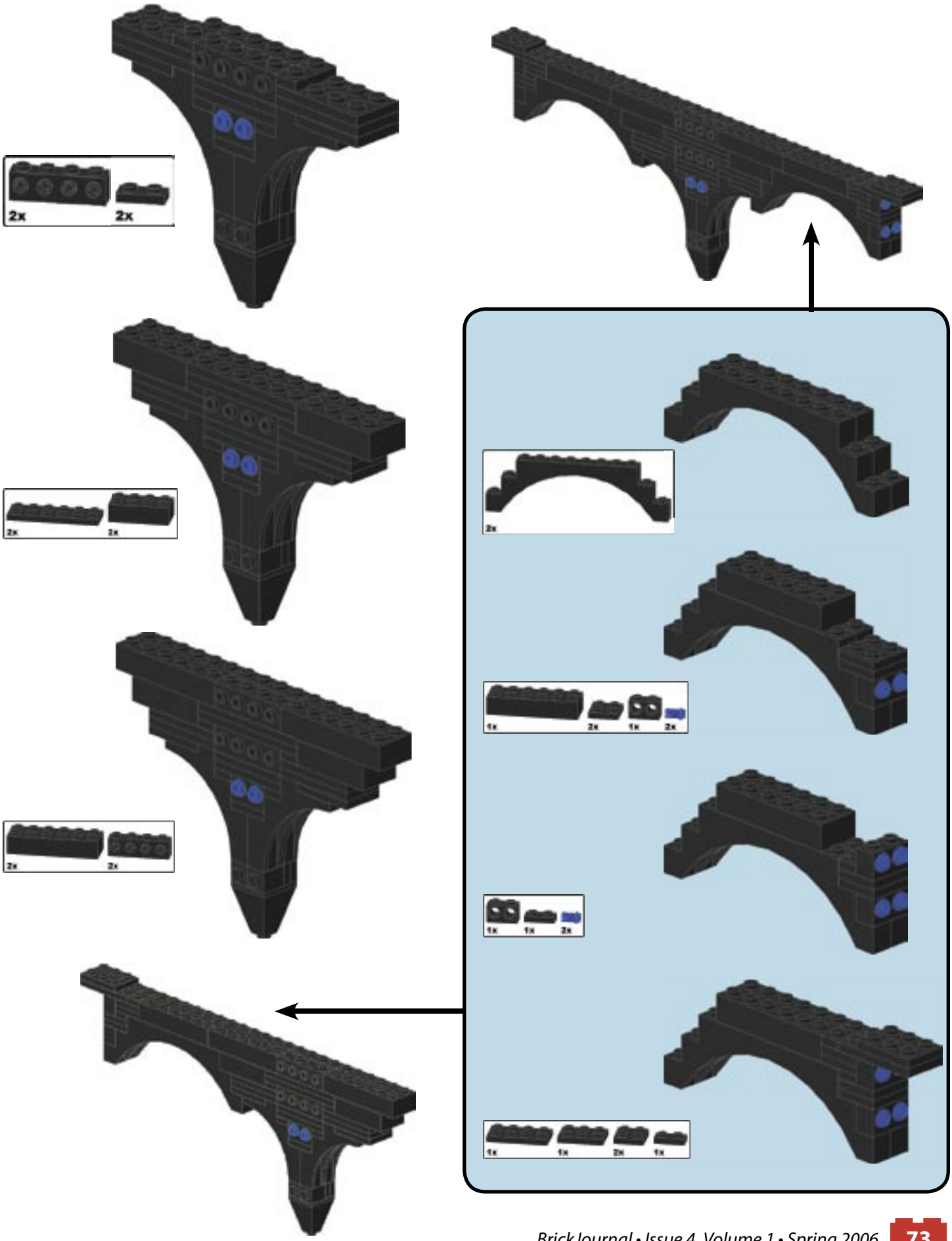








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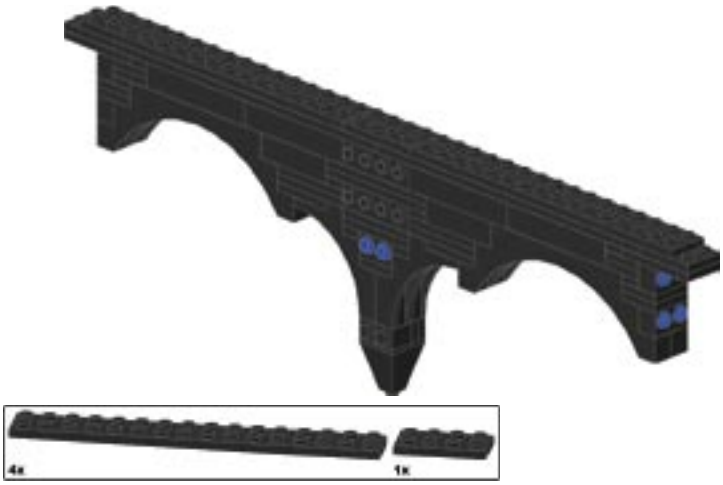
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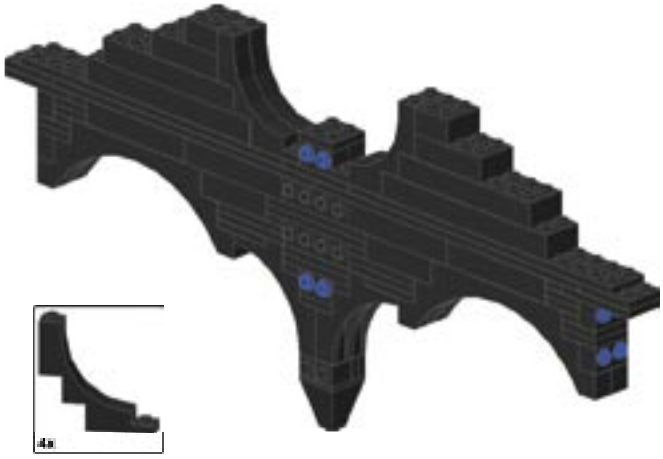
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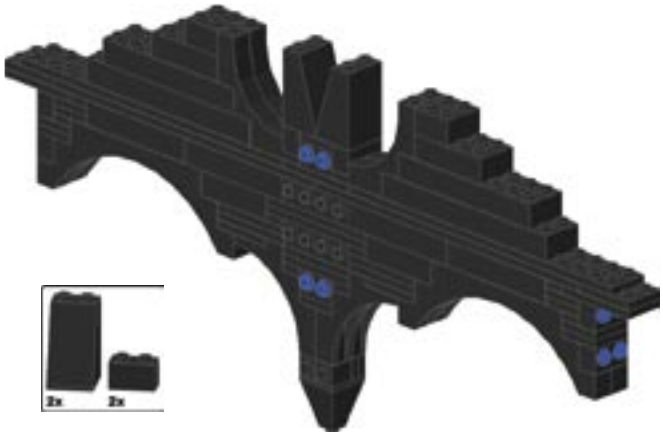
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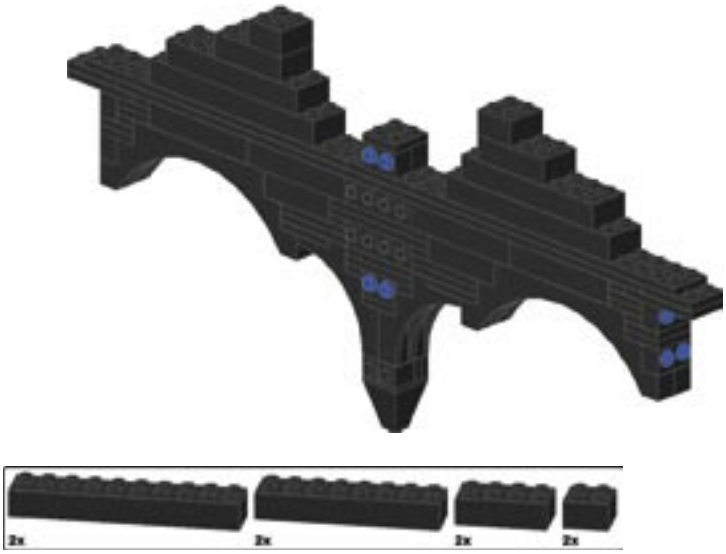
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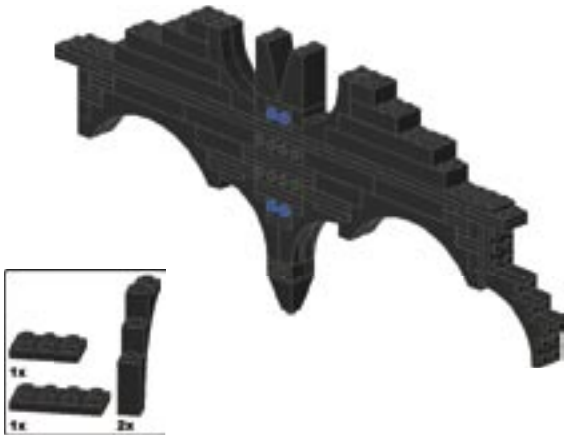
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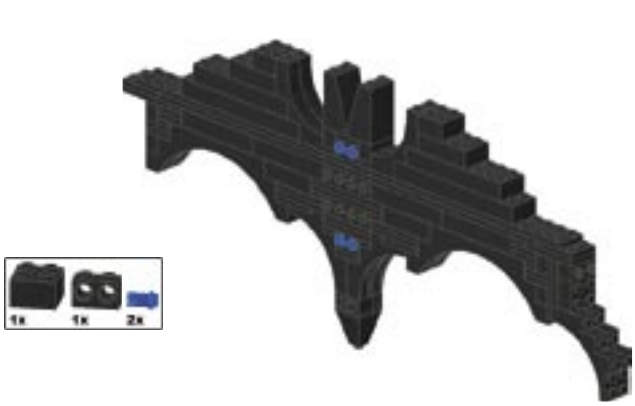

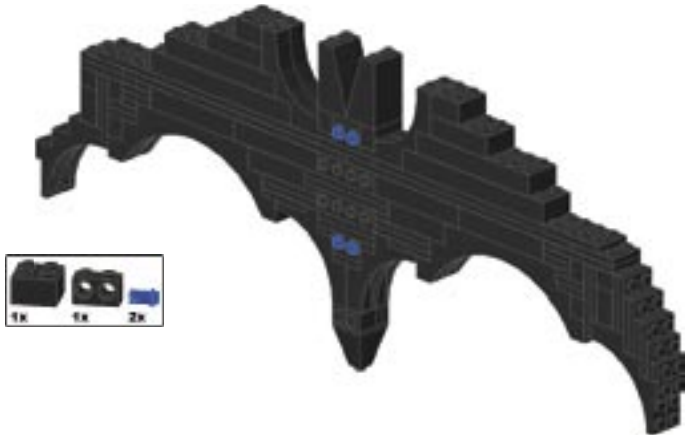

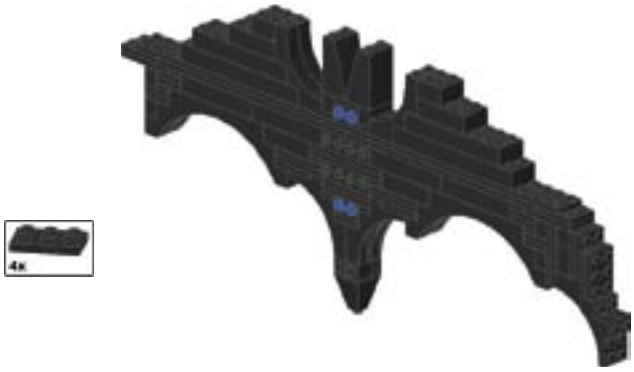

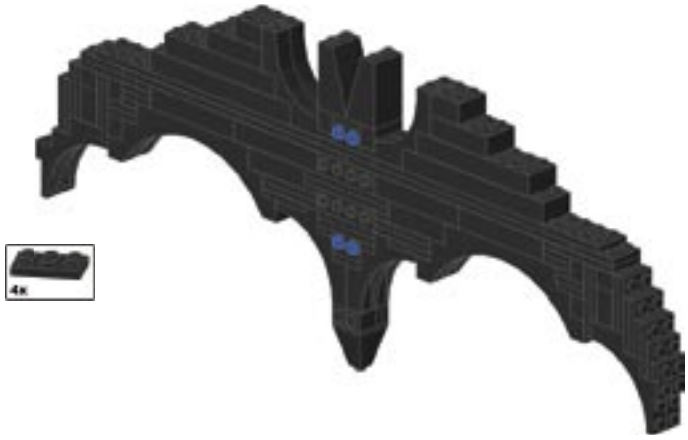

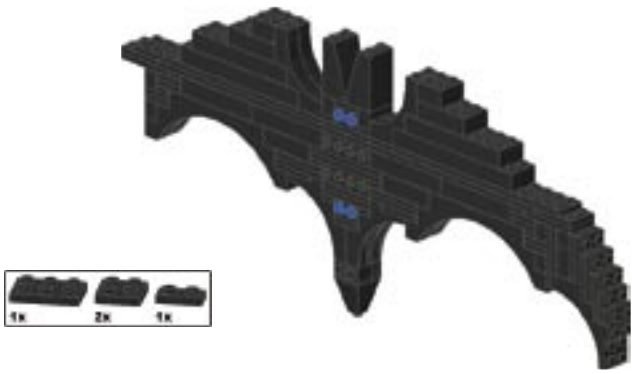

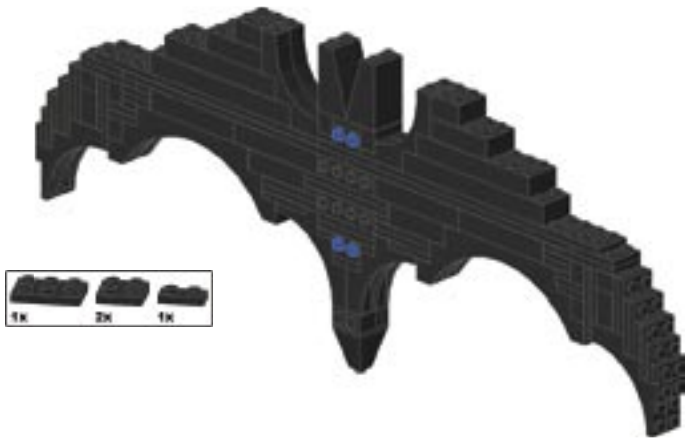

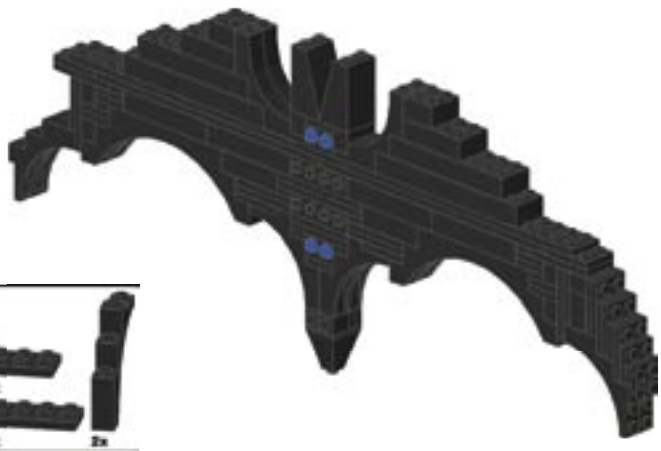

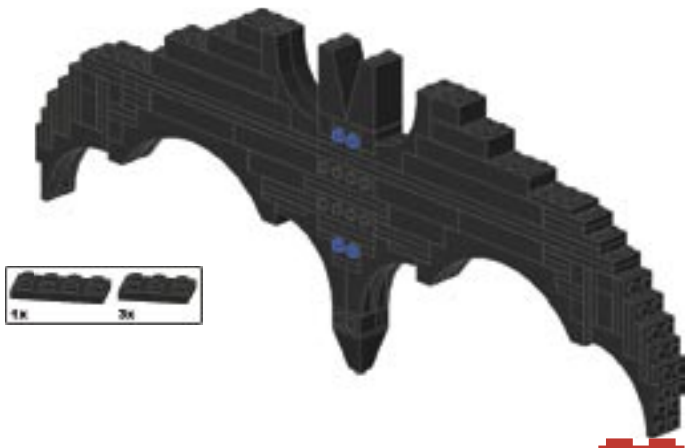

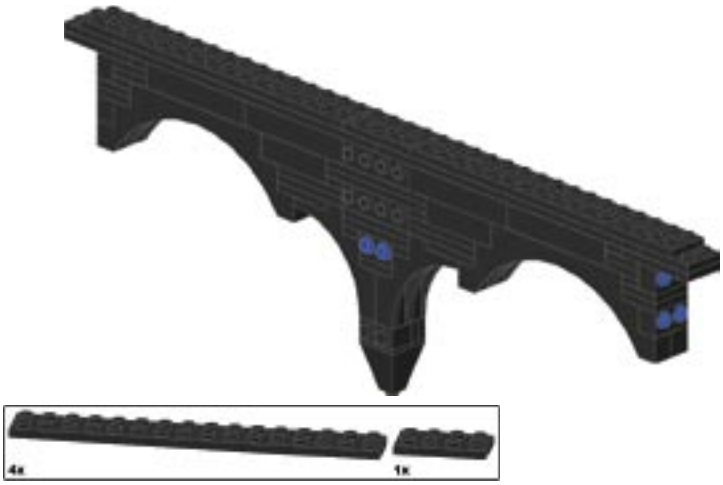
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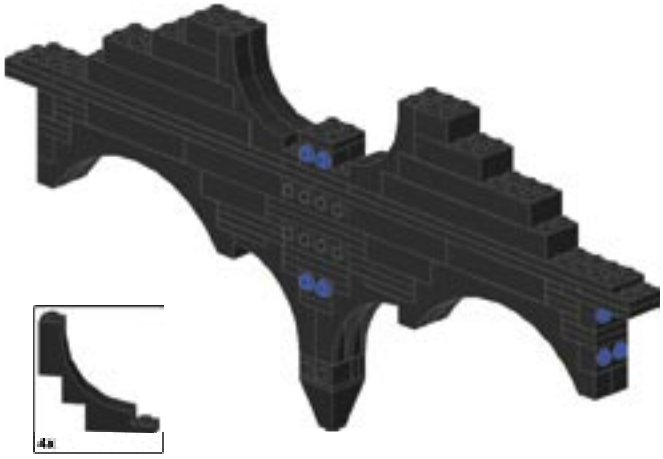
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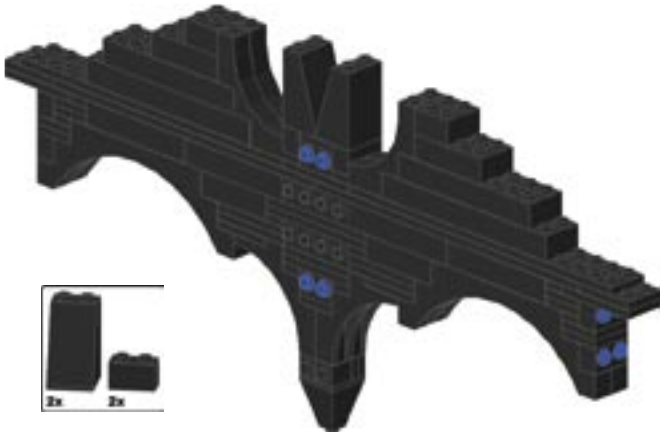
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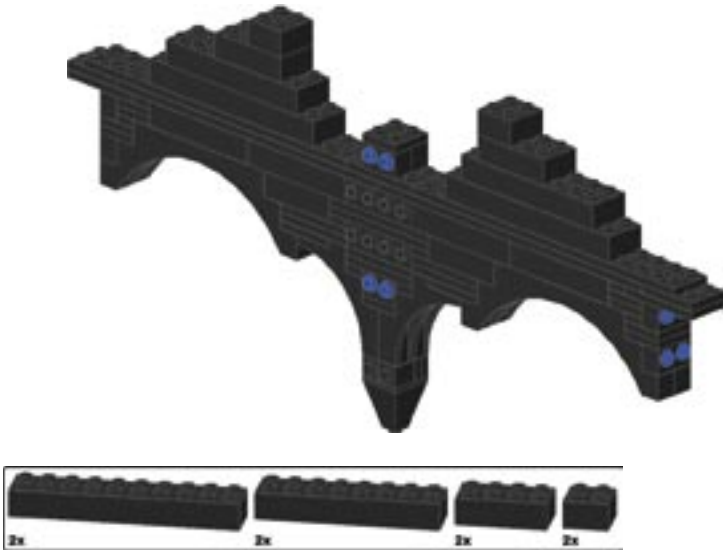
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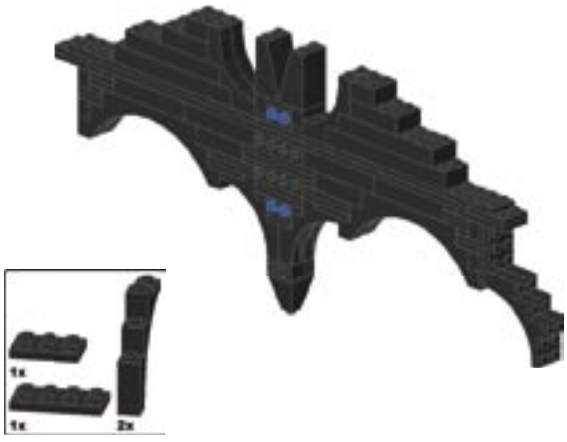
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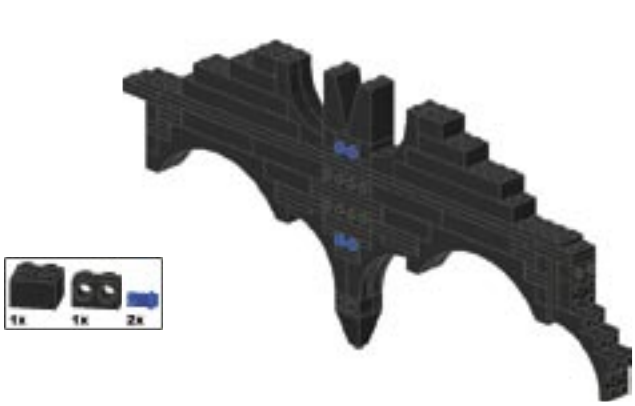

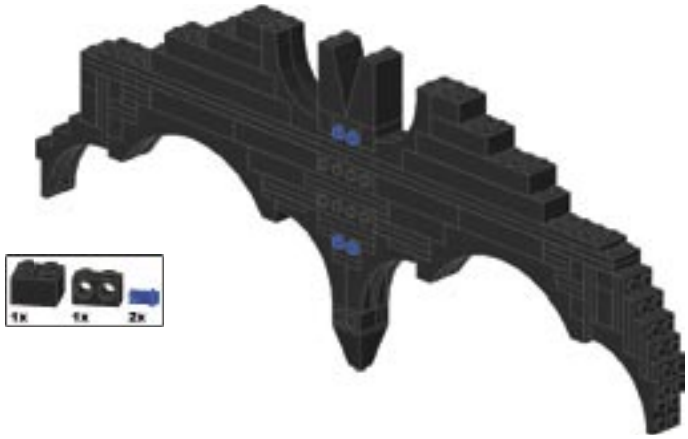

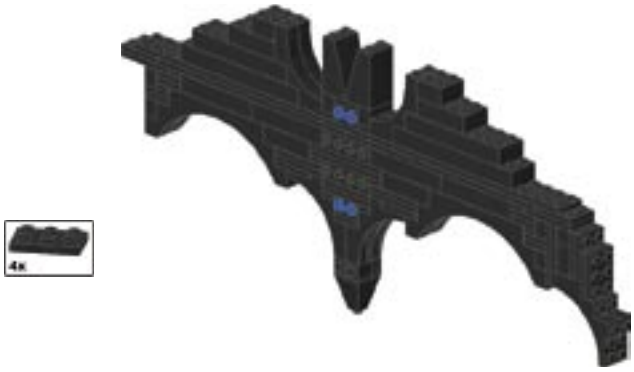

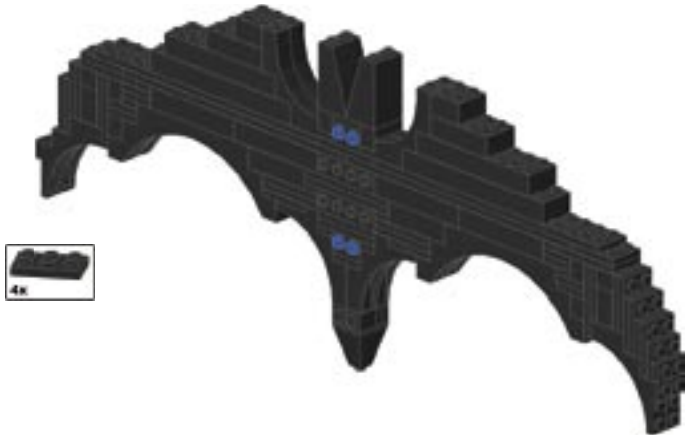

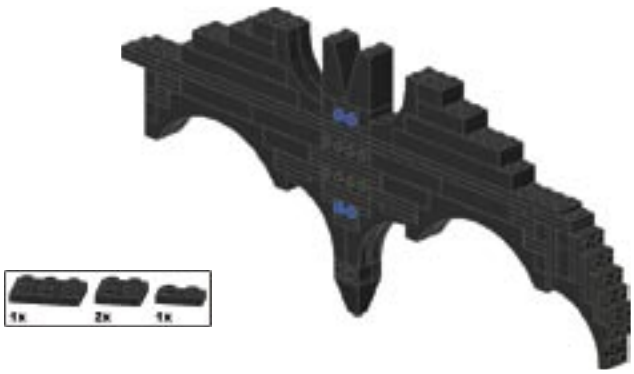

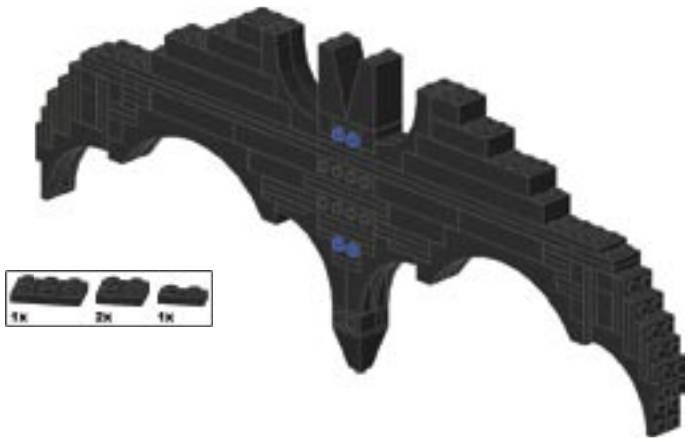

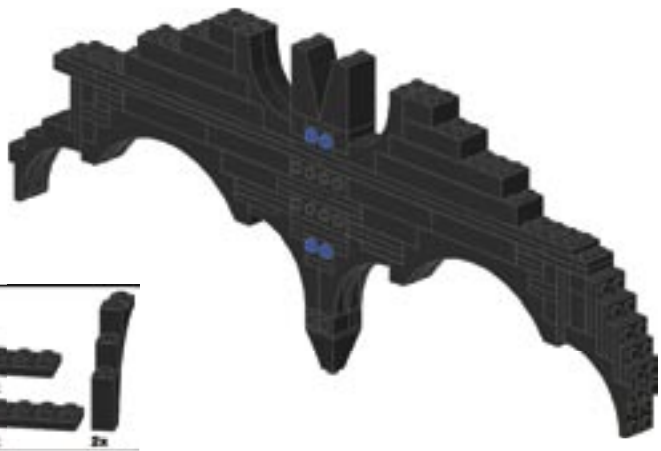

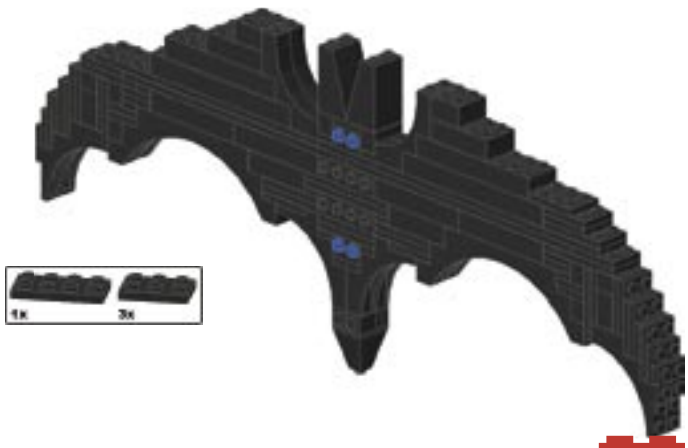

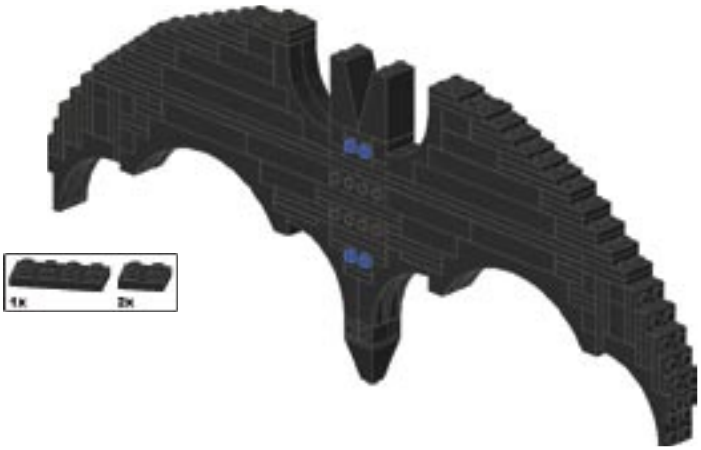

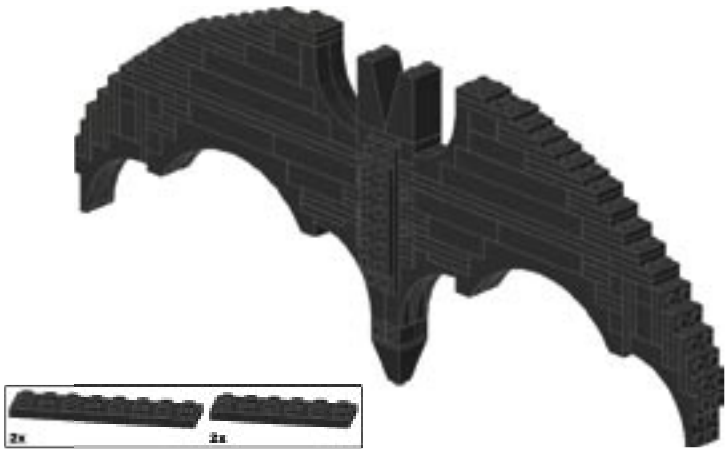

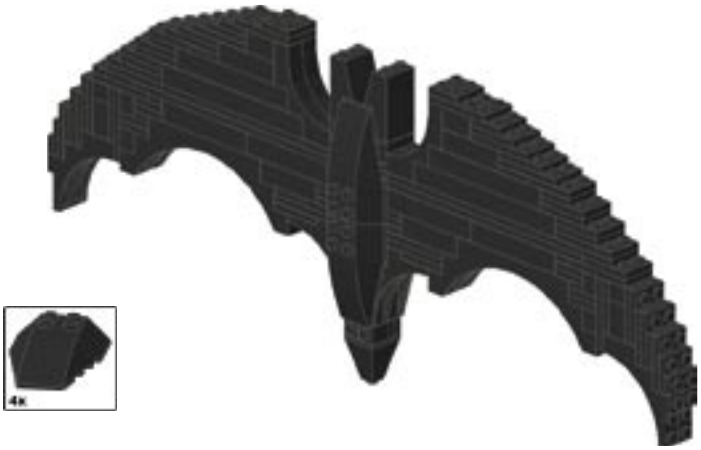

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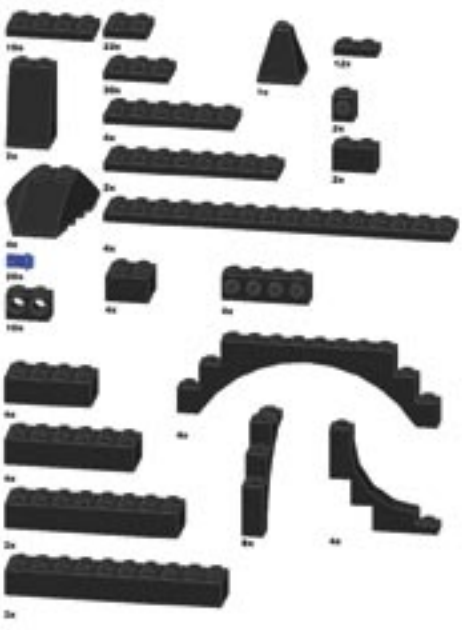


Picture of Erik's model in the Lego Office in Enfield, Ct. (courtesy of Jake McKee)

The Perfect Job

Article:
Kelly McKiernan

Article and Photos by Kelly J. McKiernan

Remnants of snow littered the ground, clumped up in craggy little dirty white islands. The sidewalk was clear, though, and the occasional bicyclist pedaled leisurely past me in the frigid, foggy air. Every few minutes a car would amble by, trailing a brief whirlwind of cold wind and dry snow. I was the only one walking in the just-post-dawn gray light. My dress shoes bit into my feet, rubbing against the back of my ankles with every gravelly step, but I was warm and comfortable above the ankles. Walking briskly helped keep the chill from invading.

Two miles went by quickly. There was a lot to look at, to take in. Street signs were maddeningly familiar but just the other side of being pronounceable, and the addition of some extra letters made my brain hurt when I tried to puzzle them out. Buildings were spaced far apart in this rural landscape, some small but most were large factory-type enclosures. At least the logo on most of the buildings was familiar.

Circumnavigating yet another roundabout, I finally spotted my destination. A quick glance at my watch showed I was doing just fine, there were still twenty minutes left before the interview. A light rain began falling just as I reached the long row of low buildings that huddled together behind a parking lot. Pointed roofs made me think of an 18th-century Lilliputian factory row.

Fortunately, I'd been embarrassed earlier at the airport in trying to figure out how the phone system worked, so I was able to press the right buttons and announce myself without incident. The receptionist's voice came through the scratchy intercom in lightly accented English, and double glass doors went "click". Warm air batted my face as I walked into the building.

I hefted my "Bionicle" leather writing case - containing my resume - and walked into the warm and colorful LEGO reception area, right on time.

There's a game we play, we adult fans of LEGO. And it's not limited just to us - everybody plays it, I think. I know it's a popular topic of discussion with the kids on BZPower, a Bionicle fan site where I'm the chief geek and one of the owners/administrators. It goes like this:

"If you could pick the most absolute bestest job in the whole wide world, what would it be?"

For an AFoL, the answer often begins with some variation of the phrase, "I'd like to work for LEGO..." Most of the people I've talked with end the sentence with "... designing sets!" but not me. Although I have a few custom creations I'm moderately proud of - including one that snagged a couple of BrickFest awards - in general I'm not exactly known for building cool MOCs.

I am known for building web sites, though.

It's something I've been doing for more than a decade. At first an interest, then a job, I've worked my way into a senior developer and webmaster role at several companies. When I'm not coding for work, I can usually be found working on a site that has to do with my favorite hobby. Sometimes it's a challenge, sometimes I let myself get distracted for months between starting and finishing something. But in the end, it usually works out. BZPower, LUGNET, ILENN, BrickFest, MechaHub, and now LEGOFan (among others) have suffered my attention at some point, to varying degrees. These sites are ones I do for fun, outside of my regular web manager day job. I just think of them as virtual MOCs without the bricks.

So it's become apparent to me (and anyone who knows me) that any "dream job" with my name attached would involve some Internet geekery.

Since 2001, when I discovered online LEGO fandom, I've been involved with Bionicle, the wildly popular "fad" product LEGO released that year, which is still going strong. I've written hundreds of stories - actually more than 1,500 - on BZPower about Bionicle, from sets to storyline to behind the scenes, from contest winners to closeout sales. I'm fairly confident in saying I know a bit about the product line.

"Kelly, you should be LEGO's webmaster for Bionicle," is a phrase that's been tossed my way on occasion. I would generally nod, smile, and say, "If only." Indeed, it always seemed the perfect fit of my professional and personal interests and skills. If only. Sigh.

The message was kind of out of the blue in late 2005, just as an aside from one of my LEGO contacts, that maybe just possibly, the official Bionicle web site might be needing a new webmaster.

"Where do I sign up?" Adrenaline rush. It was a shot in the dark. Despite believing that maybe I was the right person for that job, it was difficult to think that LEGO knew it, too.

Shamelessly, I trolled my contacts and passed on a hastily-updated resume. An hour later, the word came back that they would like to chat with me.

To understand why this was so unbelievably astoundingly awesome, it's important to understand what's so special about LEGO. Sure, everybody has a passion or two, a hobby, something that they like to pour their energy and enthusiasm into. Some people bowl, some work on cars, some shop, others paint or sculpt or fish or hunt or hang out at the local watering hole with their friends. My buddies and I snap together little plastic bricks. But for some, including me, what's behind the plastic is just as important - that encouraging creativity within kids and other adults is a worthy goal in and of itself. Part of why I helped construct BZPower was because I would've loved having a place like that to hang out when I was a kid - the creativity I've seen grow there is nothing short of astounding, and it's humbling to have been instrumental in helping that emerge.

The whole concept of LEGO is creativity. It's a very positive, fun, exciting, colorful mindset. In short, it's one of the very few companies that I respect. I like their product (and buy altogether more of it than I can realistically afford), and I like the attitude the company projects. And not least, I'm more than a little impressed with the lengths the

company has gone to engage its consumers and core fan base in helping make their products better. If this sounds like I'm just trying to suck up to get a job... well, read on.

Corporate gears ground, emails and phone calls were exchanged, and a couple of months later I found myself invited to visit a small town in the center of Denmark. Billund, to be exact: world headquarters for the LEGO Group of companies.

Before leaving, I talked extensively with my wife about the possibility of relocating from Oregon to Denmark. Over the years we'd played the "what if" game, bouncing around the (what seemed to be) almost impossible scenario of working for the company in a role that would suit me. It usually ended with "we'll see, get the job offer first." My lovely bride of more than a dozen years teaches at jobs she is good at and enjoys immensely. How she juggles them, as well as taking primary care of our two children, is beyond me. But she is not what one would term "adventurous." Actually, she's pretty much on the opposite end of the spectrum from adventurous. She's worked hard to find a comfortable niche in her life, and she's been mostly successful at it. Since this is exactly what I'm looking for, I can't fault her in the least.

But it made for some interesting conversations about the possibility of moving our family halfway around the globe.

Although trepidatious, she agreed to my finding out more. When LEGO invited me to Billund, she didn't want to quash my dream. So I quickly packed and flew across the US and the Atlantic ocean to Copenhagen, then over to Billund, where I found myself tramping past dirty white islands of snow to a pointed-roofed factory row.

A job interview is a job interview, even when conducted in a foreign country. The people were all very nice and friendly and informative, the kind of people you want to work with. Actually, the kind of people you'd probably want to hang out with during your off-work time, too. I chatted with several people in the department, each one friendly and enthusiastic about their job and employer. Despite a rough few years, the company is generally viewed as being back on an upswing, as several people pointed out.

The duties of the position were exactly what I'd been doing for years at other companies. It was exciting to see what was needed, and knew exactly how I could bring it about. Bionicle is an important part of LEGO's product line, and Bionicle.com is a popular destination for, well, a *lot* of people. Working in this position would be a plum assignment. The department manager interviewing me stressed how important they found it to have somebody who knew about Bionicle driving the web site, and thus my presence for an interview. I was also looking forward to having input into steering the unique storyline.

It looked like I would fit into the job like a well-tailored Kanohi mask on a Toa.

Of the office environment, I'll tread lightly. Over the years, I've signed enough non-disclosure agreements with LEGO to wallpaper a small room, and I have no doubt that even the most innocuous comment could endanger those NDAs. Suffice to say that I rarely get to relax in such a nice environment, let alone work in one. Of course, I visited during a week where kids were out of school and many parents were taking holiday time, so it wasn't exactly crowded.

I spent a couple of days talking with people I'd just met as well as people I've known for years, albeit virtually through email and phone calls. The overall tone of the days were comfortable, certainly not the uptight urgency I've felt during most interviews. Then again, I've never flown for 16 hours to attend any other job interviews.

In fact, a good deal of time was spent in providing ways to help me convince my wife to consider moving. By the time I left Billund, I wanted to be part of that team so much my teeth ached.

Snow in Chicago, delaying my connecting flight by several hours. At least I didn't have to sleep in the airport, but by the time I finally stumbled home and collapsed into bed, it was 3 a.m. and I'd been awake for about 27 hours, give or take.

Three hours of sleep, then a grueling Friday working from home. Vacation time left: 0.00 hours, no choice but to suck it up and fake it for the day. I slept 14 hours straight that night, and then again the next.

In the remaining weekend, my wife and I had several discussions about my visit to Denmark. We came to an understanding.

Shaking off jet lag by Monday, I was able to drag myself into the print shop where I ran the website and found that my workspace had been moved during the week I was gone. Fresh paint fumes greeted me as I found my way toward... my new veal pen. I'd requested an office. This wasn't an office, not by a long shot. Half-height cubicle walls did nothing to conceal my cubicle's location at the end of a long room, itself at the end of a corridor. The desk faced a wall, leaving my back to 20 people in the room and the hallway directly behind me.

All my hastily-boxed stuff was in a corner, jumbled and crumpled.

My space shuttle was snapped in half. Dozens or hundreds of white bricks clattered in the bottom when I picked up the box. The Xpod alien was gone entirely, and my minifigs were all missing their hair and hats.

After I crawled under the desk, hooked up the computer, and brushed myself off, I saw email waiting: the company owner's son, who'd started working there in January, had hired his chum to be the company's Web development manager.

There was no indication of what the *previous* web development manager (that would be me) was expected to do.

The cell phone buzzed. Seeing the ridiculously long phone number, I hustled to a private area and listened to the LEGO manager who interviewed me. His first words were electric. "When can you move to Denmark?"

At last! Vindication, after so many years of being disregarded, minimalized, overlooked at a company that I disliked. A company that I respected and liked wanted me to work for them in the best position I could ever hope for. I took a deep breath and answered as evenly as I could.

"My wife and I discussed this all weekend. She's not ready to relocate, and doesn't know if or when she ever will be. And as much as I crave this job, I'm not able to drag my family to where they may be unhappy. I'm very sorry." Reluctantly, I hung up. My mouth was filled with ashes. I'd just turned down The Perfect Job.

That was a month ago. The depression and guilt have pretty much abated, although the sadness lingers, as I suspect it will for a long time. I like to think that things will work out one way or another, and an opportunity lost just means another will open up elsewhere. I haven't entirely given up on working for LEGO, it's just not the right time right now. But at least I have the satisfaction of having had the opportunity, and an appreciation of the effort LEGO is spending in trying to get the right person into the job. But I'll be able to continue in my many fan-oriented roles, much to the relief of those who weren't relishing my potential departure.

My minifigs at work have their hair back. I'm now doing R&D for the print shop. The shuttle went back together quickly. I turned my desk so I can see down the hall.

But it's still not LEGO.

Kelly McKiernan is a LEGO Ambassador, and a frequent contributor to BrickJournal *as well as being webmaster to BZPower, BrickFest, and ILENN.*

RetroBrick

By Joe "LANDO DA PIMP" Fulton

Every LEGO fan remembers those initial sets that started their LEGO obsession. Newer fans of the brick may identify with Bionicle or a movie themed set. Older fans, like myself, would single out the more traditional sets as their favorite. We all read about the newer sets that are released but do you remember the sets from the 80s? The 70s, or even before that? From time to time RetroBrick will feature older sets and remember the time that LEGO sets were limited in colors and pieces.

I started building LEGO's in the early 80s. From Castle sets to Town sets to Space sets there were numerous sets in the lines that started my collection. I decided that my first article should be dedicated to what I believe was the best Space set and one of my all time favorite building sets, The Galaxy Commander (6980).

Galaxy Commander (6980)

INFORMATION
Brick Count: 427
Mini-Figures: 5 (2 white, 2 yellow, and 1 red)
Accessories: Two Space Rovers / Landing Pad
Year: 1983

Before LEGO began producing movie themed sets, a LEGO builder who grew up in the 80s, would have to build versions of the Millennium Falcon and X-Wing fighters out of a limited pieces and limited color bricks. I would build numerous ships that would battle with my brothers and friends. Because of the lack of materials our ships looked more like floating buildings than spaceships.

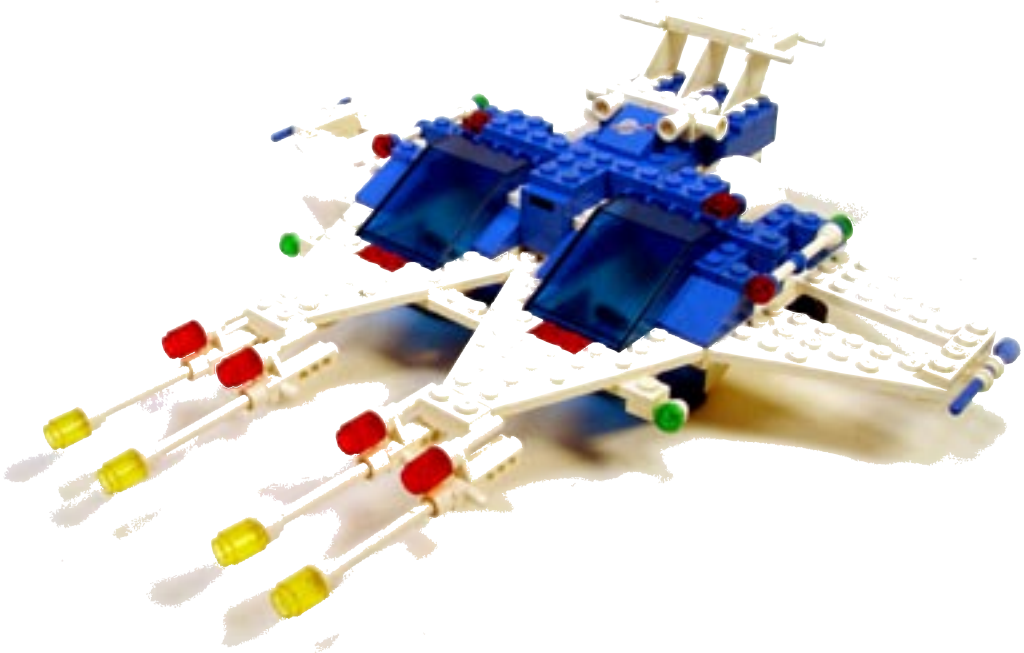
I am jealous of newer builders. They have the luxury of using multiple colors and unique bricks and pieces for their creations. I know I got sick of building yellow, white, blue, red, and black spaceships. Just give me some grey!

The Space Theme was my salvation as well as many other spaceship builders. The line was introduced in 1978 and ran through 1999 when the line was discontinued. Space featured a number of astronauts and space ships that were futuristic looking NASA ships making it the most expansive theme in LEGO history. Over the 21 years more then 200 individual sets were released under the Space theme making is a close behind from the LEGO Castle theme. Newer colors, computer pieces, and great wing and weapon pieces were introduced providing my friends and I resources to build vehicles that belonged in space.

The Galaxy Commander set 6980 was released in 1983 and I instantly fell in love. I had already had a small collection of LEGO's, mostly castle and town sets. I knew that I needed this set if only to destroy my brothers and friends bulky spaceships using the sleek construction of the Commander set. If I got this set I knew I would have the coolest looking ship in the neighborhood.

The Galaxy Commander was a follow up to the hulking Galaxy Explorer set 928. The ship stood out from all of the previous sets in that it was the first to split up into three different sections.

What's your favorite set? BrickJournal *takes a look at a classic set with a retrospective - maybe it's your favorite!*

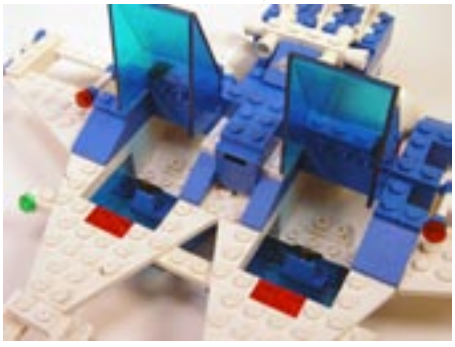


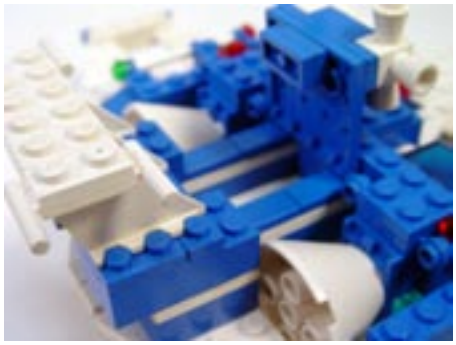
Section 01: Front Pilot Section

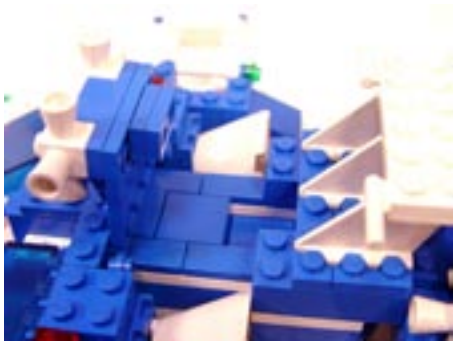
The front of the ship is the detachable slick flyer that is loaded with weapons. It is very reminiscent of how the Star Trek TNG Enterprise "D" saucer section detaches from the warp drive. The front of the ship was very different in that it was a two-seater pilot section. Both pilot seats are equipped with a steering wheel that is set inside two inverted slopes. Two blue transparent windscreen canopies open up to fit a mini-figure in each section. I only wish that both cockpits were connected in between.

A majority of the Pilot section is made up of wing and plate pieces. The initial building of this section is very weak until you begin to reinforce the wings with the weapons on the side and the canopy pieces. The weakest part of the ship are the weapons on the front of the ship that are antennas placed on 4 mini-figure accessory cameras with side sight.

The back of the ship has two large rockets with two small positioning rockets. The second science lab hitch fits into the small compartment between the two rockets. The compartment hatch closes down locking the hitch into the back of the flyer.

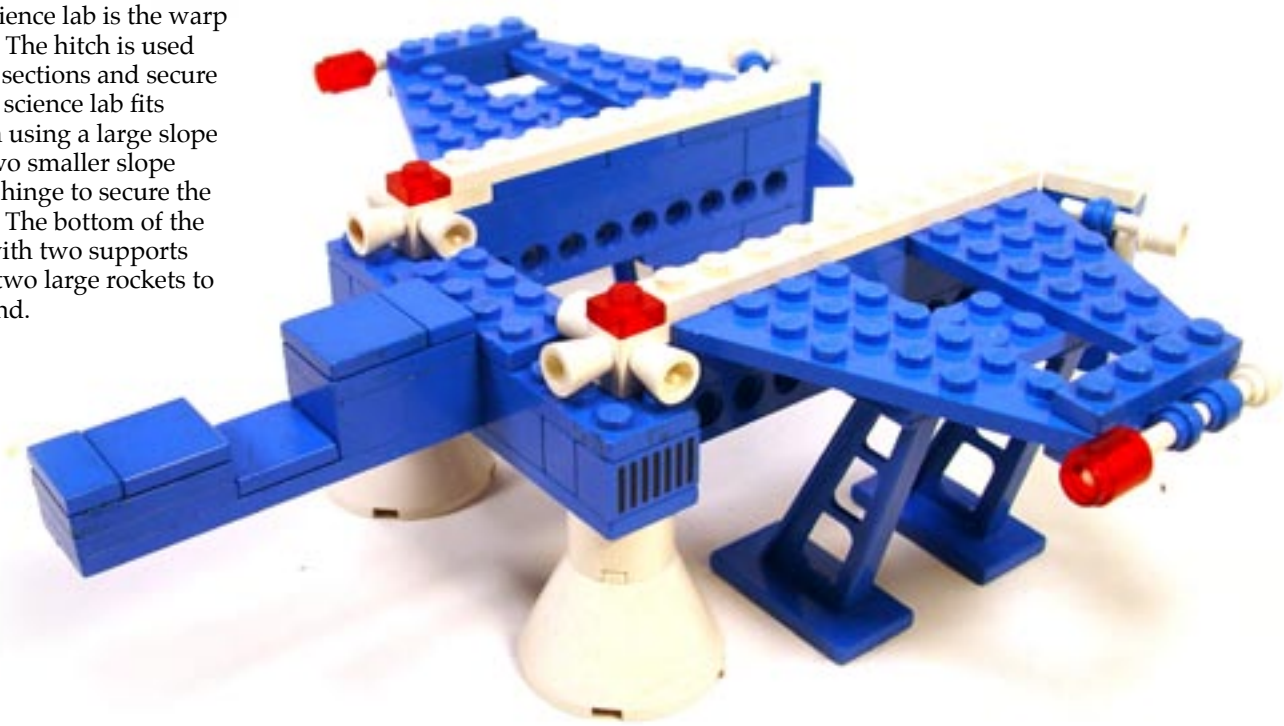


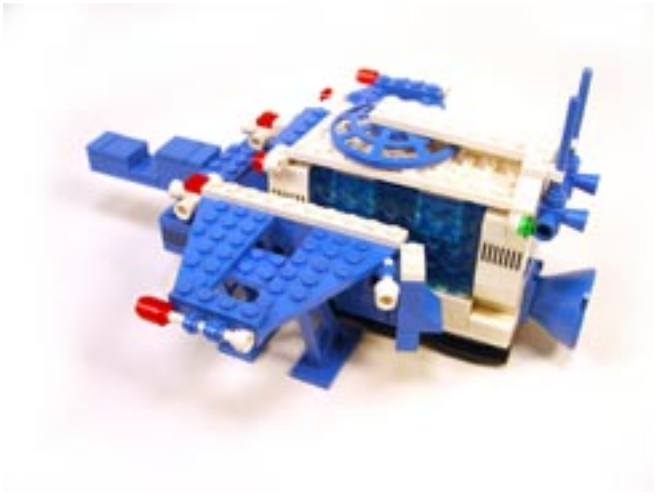


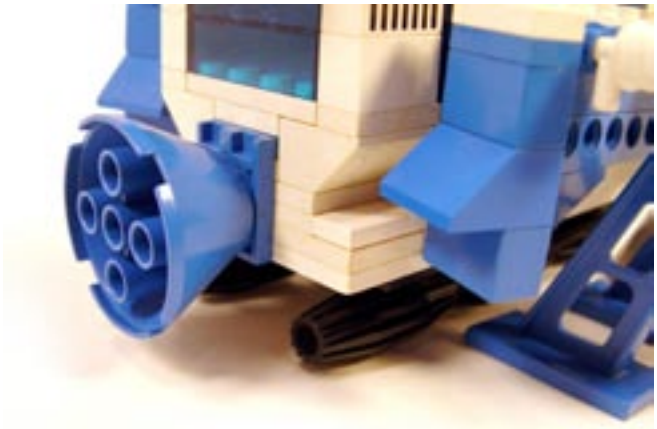


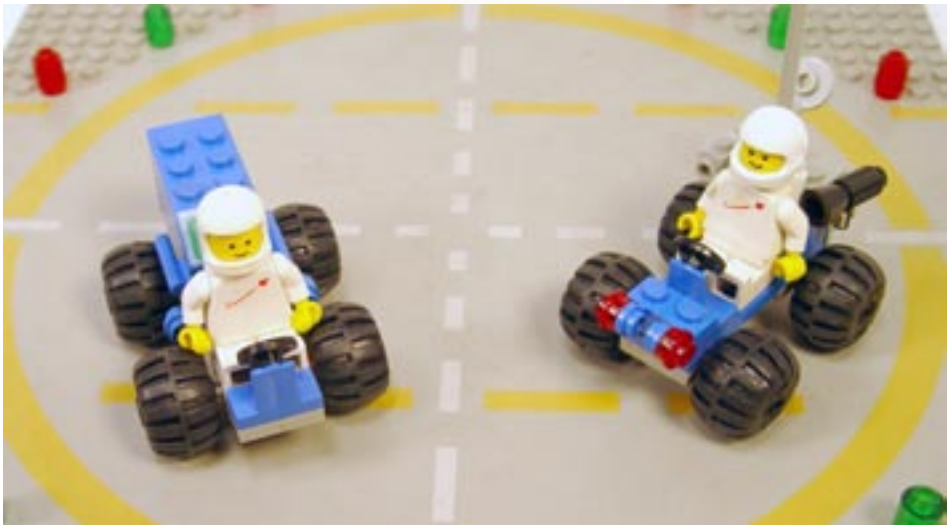
Section 02: The Mobile Science Lab Hitch

If the front section of the ship is like the Enterprise "D" saucer section, the hitch and mobile science lab is the warp drive with nacelles. The hitch is used to connect the pilot sections and secure the science lab. The science lab fits nicely into the hitch using a large slope on the hitch with two smaller slope pieces that are on a hinge to secure the lab above the hitch. The bottom of the hitch is equipped with two supports on either side, and two large rockets to allow the ship to land.









Section 03: The Mobile Science Lab

The mobile Science Lab is a great feature to the ship. You can easily see how the Galaxy Commander front section would release the mobile science lab hitch allowing the science lab to disconnect for exploration.

Inside the lab is a series of tools and computers used to explore the different planetoids. The labs side window and roof open up to allow the mini-figure to enter and leave the lab. On the bottom of the lab is a series of small rockets for movement. The top of the lab has a large radar dish that can easily fold down to the roof of the lab when not in use.

Accessories

Two small space rovers and a landing base plate are included with the ship.

Overall Thoughts

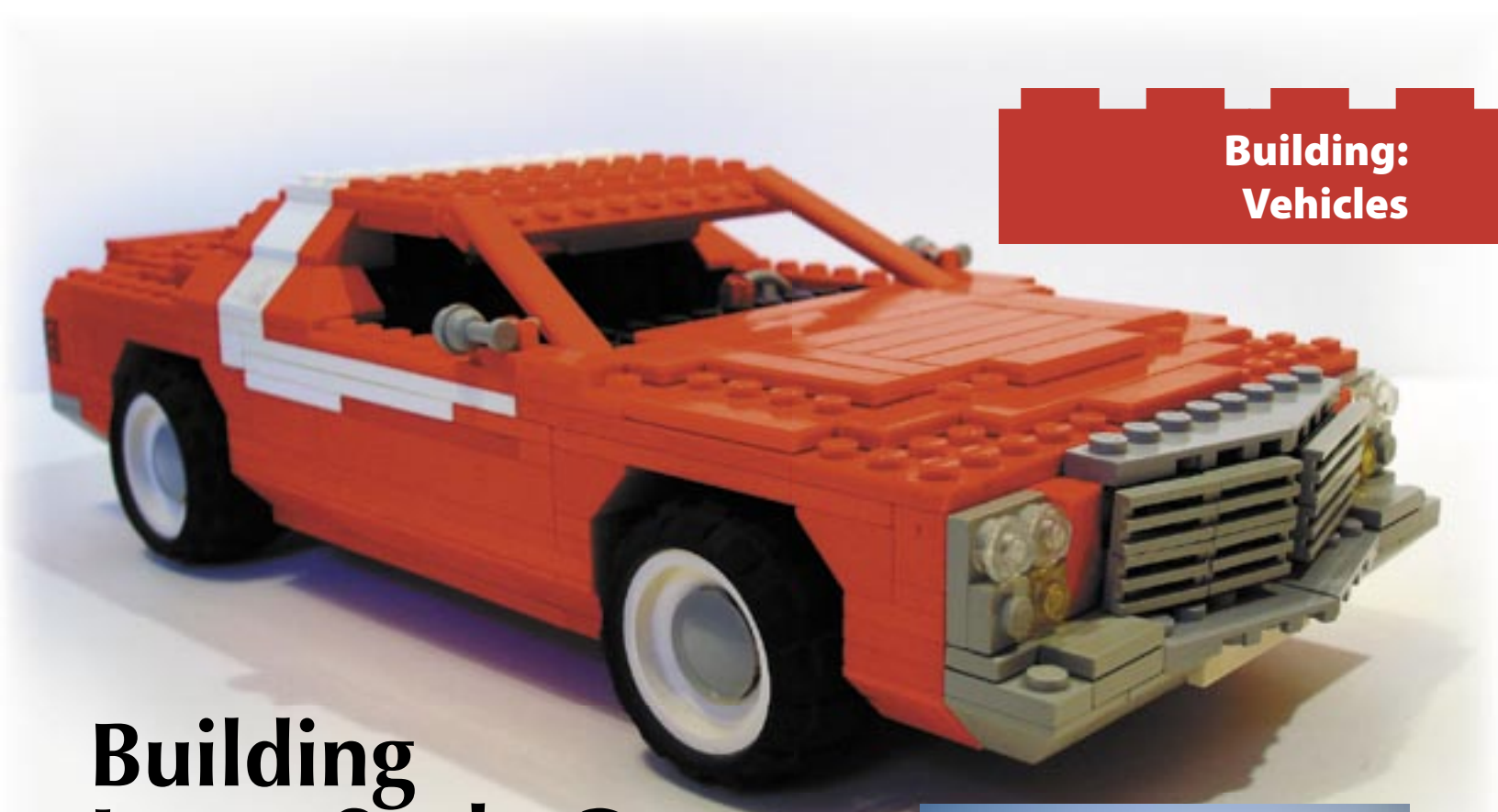
Overall this is still my favorite LEGO set ever. I think the main reason is that this ship was so different from the other Space sets. With the ability to separate into different sections and a great color scheme of old gray, white, and blue this is one of those sets that could easily still be popular even with the saturation of the movie themed sets.

This doesn't mean that the Galaxy Commander hasn't its problems. The ship is very back heavy making it difficult to move around without pieces falling off. The white antenna on the front and side of the ship are very fragile and break easily. I can look back at the ship 23 years later and realize its problems, but as a child I have nothing but great memories with this set and rebuilding it was a blast!

What are your thoughts?

While doing some research on opinions of the Galaxy Commander I found a large number of people who agree with me that this ship is their favorite set growing up. I would love to hear from you. Send any comments or suggestions of favorite sets to ldp@millionaireplayboy.com.

Joe Fulton (a.k.a Lando Da Pimp) is a graphic designer and feature writer for the website Millionaire Playboy (http://www.millionaireplayboy.com) an online magazine for collecting toys, comics, movies, and assorted pop culture artifacts.



Building Large Scale Cars

BrickJournal asked Zachary Sweigart, an automibile builder showcased in BrickJournal *3, how he built his models. This is his answer...enjoy!*

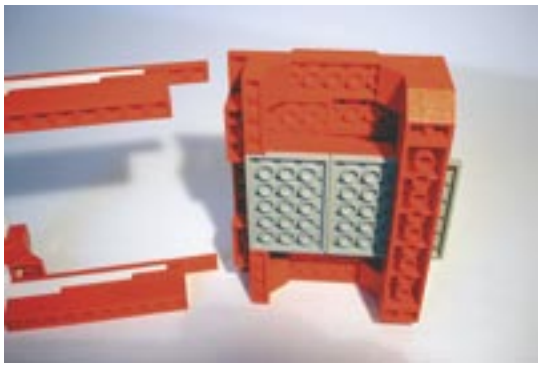
Article and pictures by Zachary Sweigart

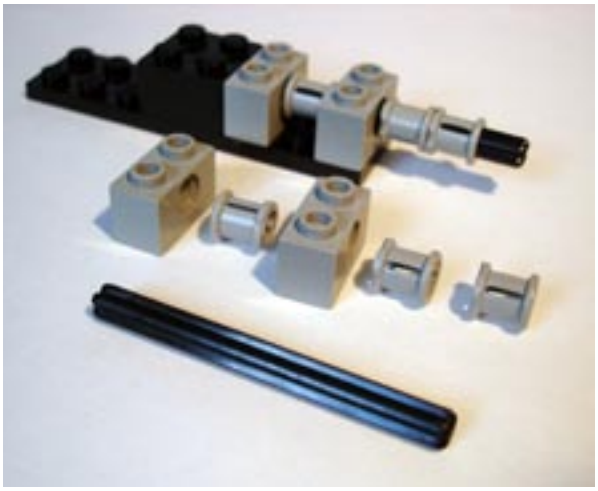
As you've probably guessed, this article is going to teach you a little something about building larger-scale cars. We'll demonstrate the ins and outs by building the '74 Ford Gran Torino from the popular 70's TV show "Starsky and Hutch", even though the principles shown will apply to just about any vehicle. The car is really rather simple in its design so it's a great way to start if you've never really tried your hand at building big vehicles.

The first thing to keep in mind when starting out is to make your vehicle of choice a lot like a real car. In builder's terms, you have to build from the ground up.

The steps are simple: First, start with a basic frame. It might be helpful to lay the pieces out that you want to use in the basic shape of the car. This will give you a good idea about where things will connect. As you can see in the Torino, most of the strength of the car lies in sides because they connect the front half and the back half together. Doors are really an option at this point, but you should decide that before you start building to save yourself some grief later on.

Pay attention to where the chassis connects with the body. Most of the strength will be in the sides





Technic axles and bushings make good axles

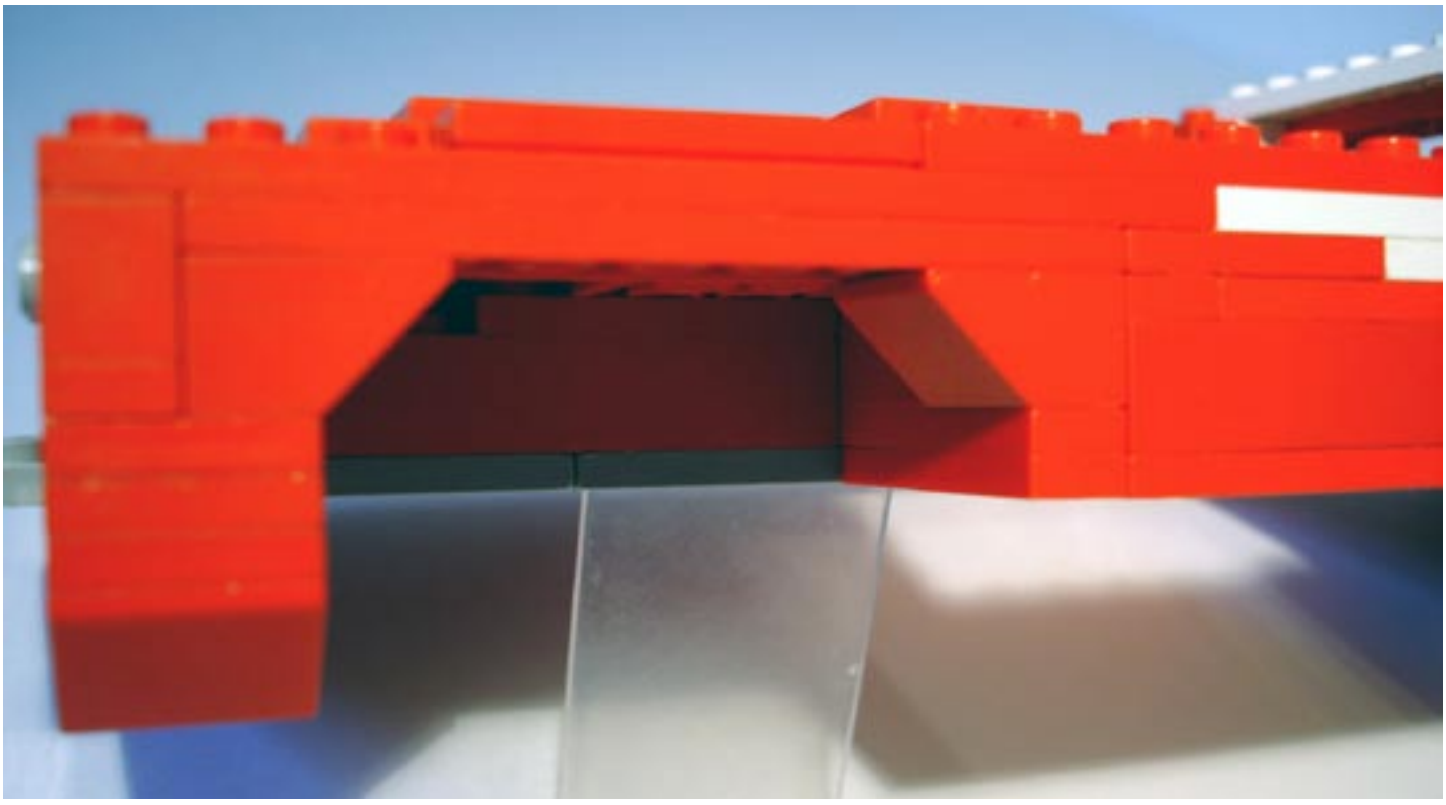
Any wheels in the six-wide range will work great

To keep your car rolling merrily along, I suggest independent axles for both the front and rear of the car. A vehicle of this scale will turn much more smoothly by using 6-wide axels and Technic pieces. Look at the axel model for the Torino. Yes, it's a bit blocky, but it is very strong and can be easily lowered or raised to fit the appropriate ride height of the car.

(Speaking of easy, keep in mind that a car built on a modular system will be easier to modify later on, or to use as a base for a new model.)

Secondly, make sure you have a really good picture of what the end result will look like, whether it is a mental image or an actual photo. Checking your model against the real thing constantly may be a pain, but you'll save yourself a lot of rebuilding later on.

Speaking of the real thing, you should probably try your hand at cars with simpler lines before tackling exotics like Lamborghinis or other cars that require a lot of curves and other unorthodox styling cues. For starters, classic muscle cars and pickup trucks are easier fare because of their simplicity.

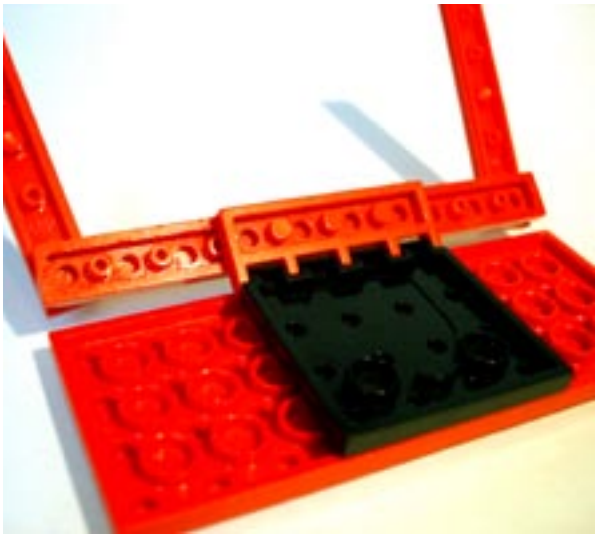


Using upward-sloping (inverse) 1 x 4 bricks are an easy way to make wheel wells. Arches can also be used, but to a lesser degree as they are not as versatile

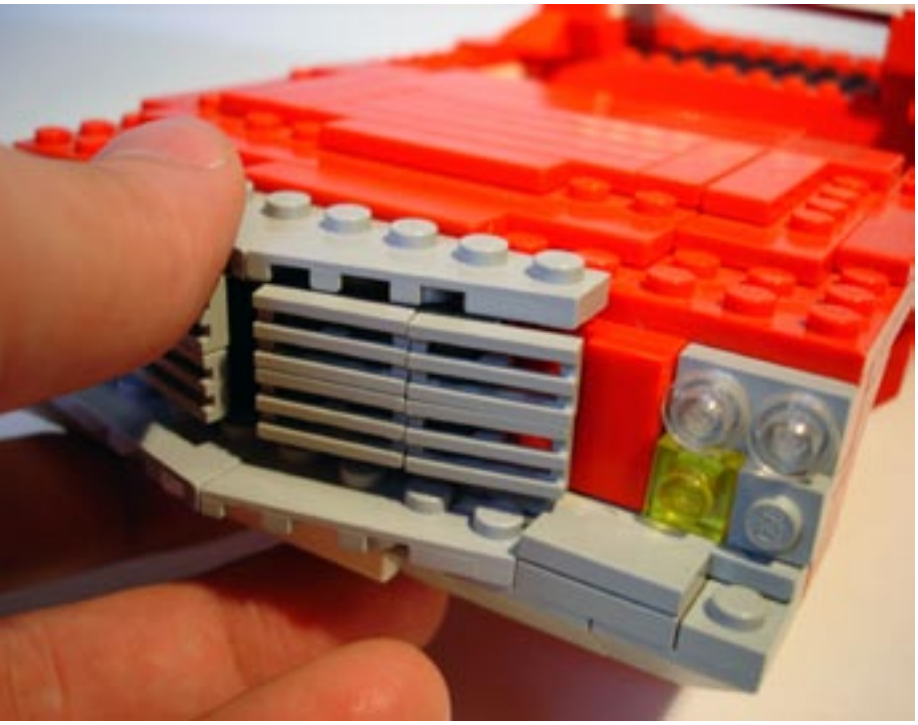
One of the hardest things to get right is the roof line. Notice the use of a simple hinge and off-setting the pillars of the windshield to create its shape. Using a standard system like this will allow you to design your windshield around any shape and size. (I apologize for the lack of an actual see-through windshield. I guess this car is going to catch some major bugs on the interstate.) Moving to the rear, you can either use the same hinge technique from the windshield to make your slope, or simply step the bricks as seen on the Torino.

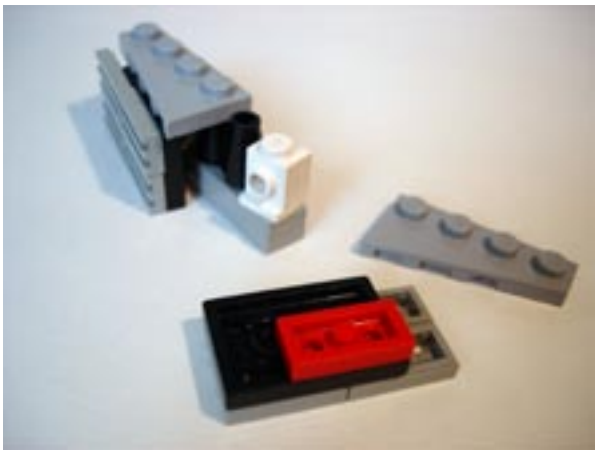
There can never be too many tiles on a car.

Third, it's all in the details. What makes the car you are building stand out? What are its trademarks? For the Torino, we have important details like the angled front grill and the white racing stripes running the length of the doors and the roof. Details always make a good car better.



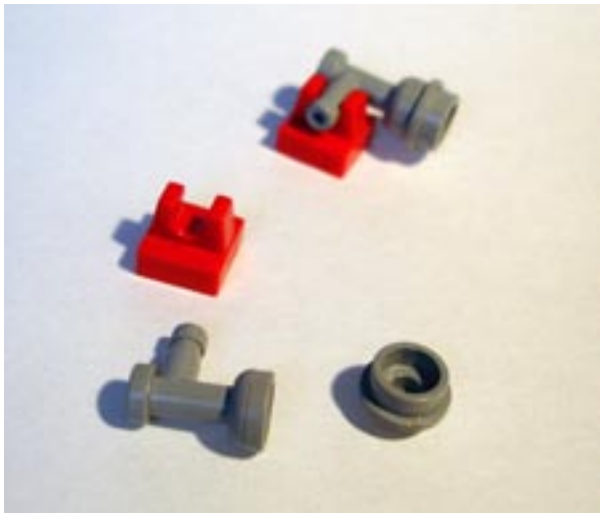
The hinges in the windshield and the stepped effect on the rear work great if used correctly





Make sure the grill of the Torino is angled. All you have to do is offset the studs-on side bricks a little bit.

Remember: the more details, the better your car will look. Mirrors, bumpers, door handles, and hubcaps all increase visual appeal.



Right: Use tiles wherever possible to create a very smooth and sleek look. Stepping the tiles also creates a curved look depending on how you use them.

Notice the construction of parts like the front bumper and the grill. Using simple hinges or stud-on-side bricks will increase your ability to add interesting details.

Now here's a little piece of info I can't stress enough; Use tiles! Tiles will add a classy look to your car as well as creating a very polished finish. There can never be too many tiles on a car. The most obvious and effective places to put them would be on the hood, the roof, and the trunk. After all, no cars have ever come from the factory with round studs sticking out of them.

These are all great ways to help you make better cars, or at least get you started in the right direction, but remember; the best work comes with experience. Don't be discouraged if your first experiment doesn't go as planned. With these simple tips and a little practice anyone can learn how to make a great-looking and functional car.

Minifig Customization 101:
Minifig Decal Design

Customizing minifigures is not only creating new heads and bodies, but making decals to add armor and clothing.

Here, Jared Burks of Kaminoan's Fine Clonier Decals and the Minifig Customization Network gives an overview to designing and making decals.

Article and Art by Jared Burks

Ok, the easy answer is to read the forum at FBTB (http://www.fbtb.net/) or Minifig Customization Network (www.MinifigCustomizationNetwork.com) and talk someone else into making the design for you. Actually you can find many designs at FBTB, MCN, and Classic Castle (http://www.classic-castle.com/); there are many great artists out there who cover all genres at these various sites. There are also a few sites where you can purchase decals and skip the design part all together. My site, Kaminoan's Fine Clonier (www.FineClonier.com), and Red Bean Studio's (www.redbeanstudio.net) are two that offer high quality printing featuring white, metallic gold, and metallic silver inks. But if you have decided to make your own, here are the basics.

The Basics: Raster vs. Vector

There are two types of graphics programs, raster and vector. Raster image formats are made of tiny squares of color called pixels; these are primarily used in digital photography. The main graphic formats of the web, Gif and Jpg, are examples of raster image formats. When you zoom in, these images become blocky (or pixilated). Think of a puzzle where you can see the picture as well as the puzzle pieces. This type of image will always have limitations as it has a defined smallest point based on a square shape.

Vector formats are not based on a square but mathematics, as such if you zoom in or out you will never have pixilation because all points have a mathematical distance from the other points. EPS, to some extent PNG and native formats like AI (Adobe Illustrator) or CDR (Corel Draw) are vector formats. When you zoom in on vector art, it stays sharp and clean because the same math applies at whatever the magnification. Think of looking down railroad tracks, they never seem to meet. Even from a long distance they don't meet no matter how far you look down the tracks with binoculars, you maintain resolution despite the magnification. Vector graphics are used in illustration and design (Commercial Artwork), most home users, doing simple web graphics, drawing pictures, or photo editing don't have a need for these formats. However, for the best results it is important that you create your designs in a vector art program. If you don't have a vector program, consider a trial version of the aforementioned programs or Freeware Draw Plus 4 (http://www.freeserifsoftware.com/software/DrawPlus/default.asp). If you don't want to use a vector art program, raster programs like adobe photoshop can be used, just remember to set your dpi (dots per inch) as high as possible. This value is the resolution of your image, which is tied to its print quality.

After selection of your art program and familiarization with that program you can begin creating designs with templates for the torso and legs found here: Minifig Blank: http://www.brickshelf.com/cgi-bin/gallery.cgi?f=132284

Decal sizes:

Many other templates can be found at MCN (www.MinifigCustomizationNetwork.com).

Torso:

1.422 cm Wide
1.201 cm Tall

Legs:

1.4 cm Wide
1.1 cm Tall

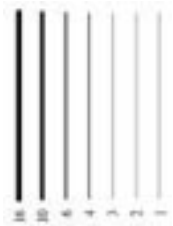
Belt:

1.4 cm Wide
0.2 cm Tall

Line Weights:

If I need a highlight or a really fine fold then I will go down to 0.3. I do this for several reasons: 1, I draw designs for many people and want them to have good results when printing (Various printers/color copier types); 2, I convert to jpg format (a lower resolution format for compression into a smaller file size for easy up and download from the

Raster Image: This is a simple representation of a raster image, a desktop icon which is presented at 32 by 32 pixels.



This is a simple representation of line weights, thinner lines are used for fine details, thicker lines for bold details.

web), this means I lose some details, and thus my details need to be bigger; and 3, I try to stay in a similar design scheme as the Lego Group.

Important Point – Remember your printer

When creating art for use in the creation of decals it is important to remember the limitation of your printer. Most printers have difficulty in printing a line with a weight of less than 0.3 points (Line weight refers to line thickness, think of a line drawn by a #2 pencil compared to a mechanical pencil). Just because you can see the difference in your vector program doesn't mean you can print it, so test prints are important (You can draw details beyond the abilities of your printer due to the nature of vector art). A good point size range for details is 0.5-1.0.

Choose a subject matter, what do you like? Search the web for images to use as reference. Decide what part of each of these images makes this character recognizable and try to capture this in your design.

Color – What Color is That?

Draw and color your design as you would like, remember you can use the same color palette as Lego, which can be found here:
Official Lego Color Values http://www.peeron.com/cgi-bin/invcgis/colorguide.cgi
Peeron Color Chart: http://www.peeron.com/inv/colors
One of the nice things about using Lego's palette is the consistency of color on your finished figure, but by all means use any color in your designs you want.
How you color your design depends upon the media that you are going to print. Options include waterslide decal film, overhead transparencies, clear self-adhesive stickers, and paper. These different products can be found at many office supply stores, hobby stores, and even Wal-mart. If you are printing on a clear media keep in mind that the torso color is going to show through and contribute to your design. I actually design my work to take this into account.

A

B

Clear Sticker Paper vs Water Slide Film: The figure in panel A was created with clear sticker paper and the figure in panel B was created with water slide film. Notice the differences in clarity between the two figures. (Figure design and comparison by Red Bean of MCN)

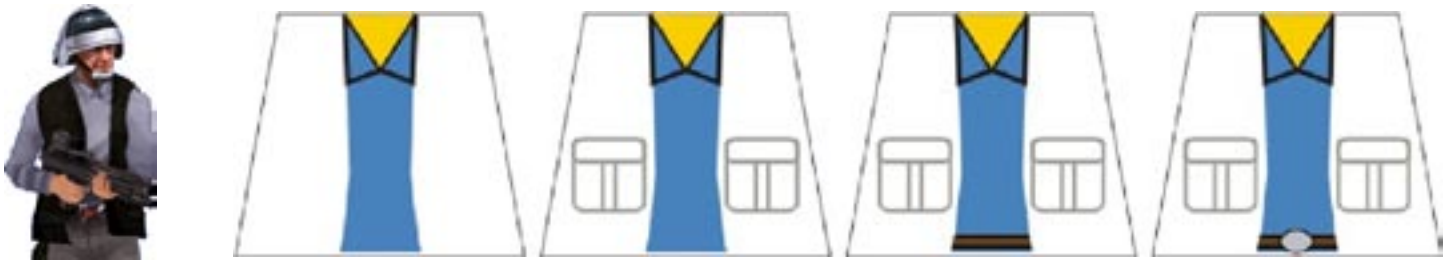
Jonathan Markiewitz

Director to: Duet (2006), Fake Commercial (2005), Please Drive Slowly (2005), The League of Extraordinarily Overpaid Actors (2004), and Batman: Revenge (2003)

www.jonathanmarkiewitz.com

Subject Matter

Choose a subject matter, what do you like? Search the web for images to use as references. Decide what part of each of these images makes this character recognizable and try to capture this in your design. Here is a simple example, a space soldier.



The design process: Find a reference image, in this case a space soldier. The vest and a few features make the design. So we start with the shirt and go from there adding the pockets to the vest and a belt with a buckle. Remember the vest color will be added by the torso. Flesh tones or yellow could be added for the neck color, so you get to choose.

For the space soldier the belt, vest, and a few other small details makes him recognizable. Therefore, these are crucial as the torso color is going to have a big impact on the design. The white areas in the design will be clear when printed on clear media allowing this design to be applied to a black torso.

Printing

Before printing on any expensive media always print a test page. Print your designs out on a piece of scrap material or paper. Confirm your color choices, colors on your screen will not exactly match printed colors. Confirm your details, you have been working on something very small in a vector art program, are your details too fine to print?

I prefer the results from waterslide decal film as it looks as if it was printed on the figure giving you the best results. Waterslide film is available from hobby stores or online. I recommend Micromark (www.micromark.com); they have a sample pack of clear and white film. Clear film will work well on any of the lighter colored Lego elements; however dark elements create a problem which require you to use a special printer or use white decal film. This is because the darker Lego element will show through the printed regions darkening them and in many cases completely concealing your hard work. If you use white film this gives your design the ability to keep the vivid colors on dark elements, however you will now have to print the torso color or closely trim your decal. If you print the torso color it requires a close color matching, use the references above (These color values are close but not always exact for all printers, as such they require a bit of experimentation).

As most people have access to inkjet printers or color copies (Kinko's, etc.) the instructions will follow to create decals using these types of devices. You will need waterslide label paper, again I recommend Micromark (www.micromark.com). If using an inkjet printer you need to order media specific for that device, however if you are printing your designs on a color copier or color laser printer, you will need waterslide paper for a laser printer. Print your designs using the highest resolution possible for your printer (just like you did when performing your test print). Once printed be very careful not to handle the sheet of decals until the ink dries. After you have printed using an inkjet or color copier, you must apply an overcoat to the decals with clear spray paint, available at any home improvement store. Apply several thin coats and allow them to dry between applications (2-3 applications normally does the trick). This will protect the ink from the water used in the application of the decal. Even if you have waterproof ink in your inkjet printer, this is critical! Once printed cut the decals from the page and follow the manufactures instructions for application of your decals. For tips and tricks see the next article in the series.

The finished figure: Now that you have your decal, apply it and add a few touches and you have a nice custom figure. (Face design by Bertramtalespinner of FBTB, Helmet by miniMitch, & Gun by The Little Armory)

Coming Next Issue:
Minifig Customization 101 – Minifig Decal Application

Creating Custom Minifigure Aliens

Ever wanted to make a new head for a minifigure? Here's one approach!

Article and Photos by Peter Reid

Fig.1 – Some of my favourite custom aliens – Moonface, Raglon and Winky

When I was young, I was always disappointed that there were no minifig scale aliens. My classic spacemen had only each other to destroy, and I thought that was a shame. Things have improved since the late 90s. We now have Life on Mars aliens, Harry Potter goblins, and various species from the Star Wars universe. So nowadays, if you need a funny head for an alien delegation, there are quite a few 'legal' choices.

I used the custom alien solution (fig.1) before all these alternatives were available. I think they retain a certain charm despite the obviously 'impure' philosophy involved.

To be honest, there's not a great deal of LEGO mutilation involved in making these...all you really need to sacrifice are 1x1 round bricks, and possibly an old torso or two.

Shopping List

The best place to get everything you need is Games Workshop. They stock a fantastic (though somewhat pricey) range of paints and brushes, as well as a brilliant fine-scale modelling putty known as Green Stuff.

If you can't get to a Games Workshop, then head for your local art supplier. They should stock a product called Milliput, which is excellent. You should also be able to get hold of paints there.

Fig.2 – Some of the items you'll need

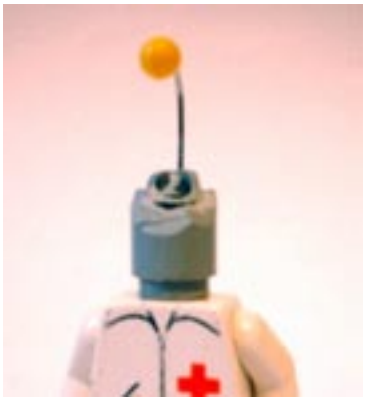
Things You'll Need

- 1x1 round bricks (in poor condition, preferably)
- Old minifig torsos (to hold during the sculpting and painting)
- Milliput (standard yellow/grey) from an art shop
  Or
- Green Stuff from Games Workshop
- Wire
- Superglue
- A selection of paints (I favour acrylic, but enamels will do)
- Enamel Varnish
- Brushes
- Craft Knife
- Sculpting tool (toothpicks are great for this)
- Q-tips®

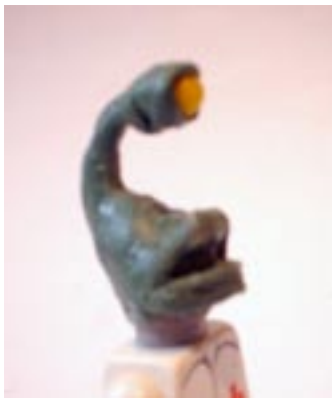
Preparation

Decide what type of alien you'd like to do. For the purpose of this article I'll be showing you how to make a Cyrian. These are cute, easy to make aliens that I've made loads of.

For Cyrians, I like to shave a little bit off the top of a 1x1 round brick, and glue a bent pin into a small groove at the back (figs.3, 4). The wire is useful because Cyrians have a potentially delicate eyestalk, which might snap off during play. It's much less likely to come off with a wire running through it.



Figs 3 & 4 – Basic frame



Figs 5 & 6 – Initial sculpt

Lay down some newspaper, and get a jar of water and some kitchen roll in your work area. In my keener modelling days, I was always having clumsy moments with paint, which ruined my bedroom carpet. You have been warned.

Separate two equal amounts of your chosen modelling compound (two pea-sized lumps from each strip should do fine). Mix them together thoroughly, ensuring all the streaky bits have been mixed together.

Apply some of your modelling material to the head, and try to get the basic shape. Use a toothpick or similar instrument to control your sculpt, and remember water will smooth out any rough areas.

When you have a head you like, put the model to one side and wait for it to dry. Two-part modelling compounds like Milliput and Green Stuff generally take about three to four hours to totally dry (the clay starts to noticeably harden after about half an hour – and will be unworkable after about an hour). It's often best to tackle these sculpts in two or even three separate sessions, so you don't end up ruining what you've already achieved.

When you've mastered the basic shape, have a go at adding some detail. Rolling out very thin balls or sausage shapes is good for all sorts of things (teeth, horns, eyelids). You can attach them to the main model with a moistened toothpick, and with a little practise, you'll achieve some very pleasing results.

Painting

I have to say; acrylic paints from Games Workshop do the job for me. I'm not that well acquainted with spirit-based (enamel) paints, and I think they're a bit of a pain, really. I certainly don't want to be messing around with white spirit whilst trying to get a decent thickness of paint. Acrylics can be thinned with water, which makes them very user friendly. And when they're dry, they are totally waterproof.

All my Cyrians are purple. I don't know why, it just works for me. Firstly, the models are undercoated with black paint, and then I build up the highlights, working from dark colours to light.

Finally, detail is painted in. It may take beginners a while to master some of the techniques of painting, but persevere and you'll get better quickly.

After the model is painted and dry, the whole head should be given a coat of varnish. I prefer gloss, but it's entirely your choice if you want a shiny or matt finish. I use a Q-Tip to apply the varnish (it saves ruining your brushes). The varnish takes ages to dry, and is probably best left overnight. It's worth doing, though, as your custom aliens will survive years of play with the protective coat.

Once they're painted and dry, you can have lots of fun trying out various torsos, and giving them guns. I have to plug the Little Armoury here: the custom weapons they produce are totally brilliant, and really fit in well with the feel of the aliens.

When the creatures are ready, you can get down to the serious part of the operation...getting out your LEGO spacemen and killing all humans!

Have fun!

Peter Reid wrote about Building Better Bots in Issue 2 of BrickJournal*, and his online gallery can be found here: http://www.brickshelf.com/cgi-bin/gallery.cgi?m=Legoloverman*

Fig.7 – Painted and finished aliens

Last Word

Wow, it's cramped in here!

I hope you liked this issue - this one was the result of more than a few people writing, taking pictures, and editing...and even drawing!

BrickJournal is growing, and people all around are taking notice...including the LEGO Group. We were congratulated by the CEO for our third issue, and now there are some great things happening as a result. You'll see the results in the next few months in the magazine, online...and maybe in your mailbox.

But what's up for the next issue...

One hint: skyscrapers.

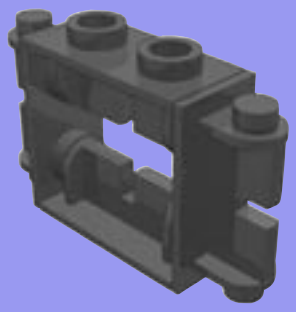
Another hint: Very large spaceships.

Last hint: a big boat!

Til next issue,

Joe

Bricks for Thought



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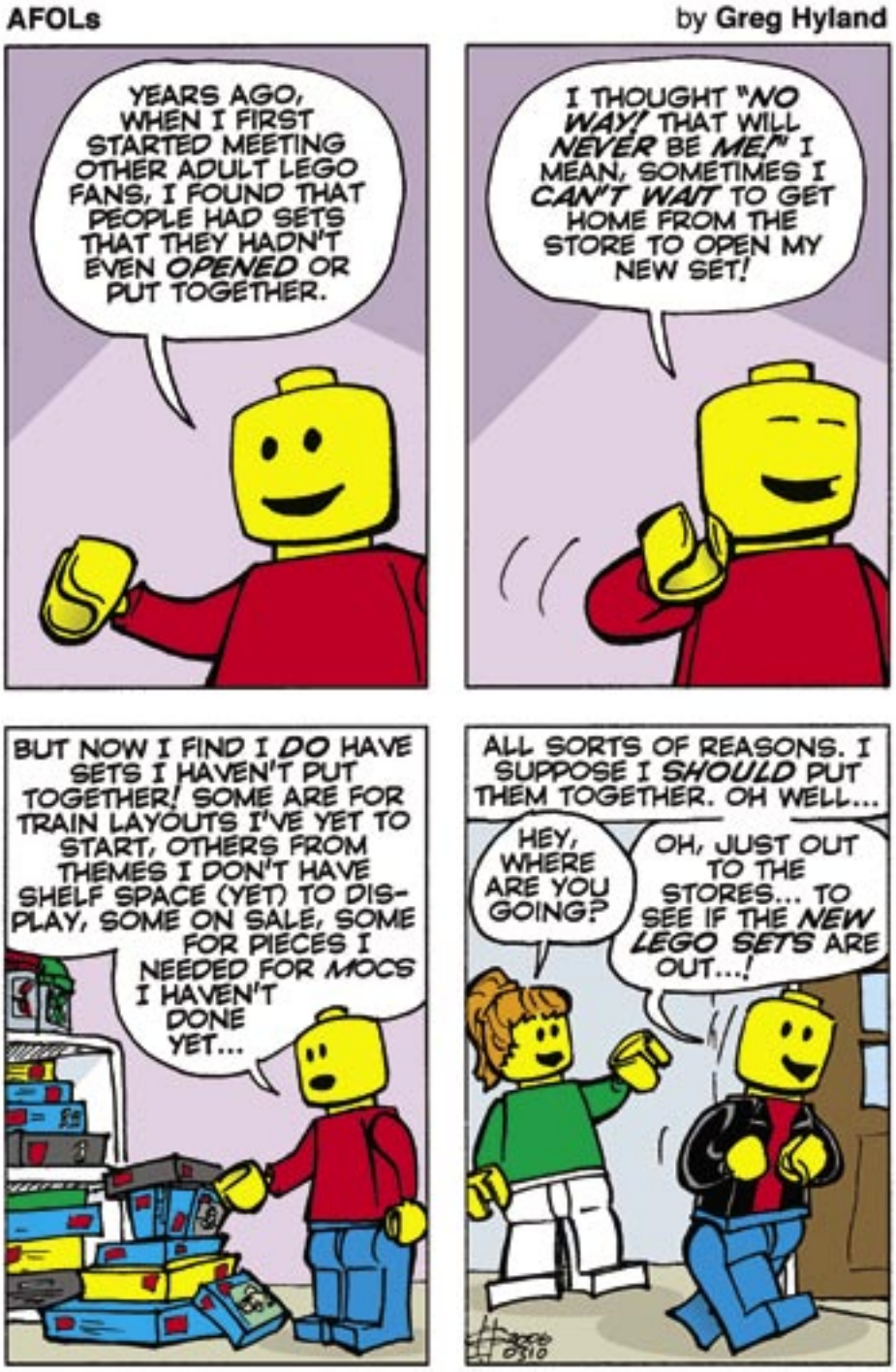

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A new innovation from Tommy is WoodStitches®, where a wood veneer is bonded to LEGO® elements. These elements can be used with other LEGO bricks and also to create beautiful mosaics (such as the one at left) and desk nameplates.

If you're interested in seeing the wide assortment of brick engravings and finishes that Tommy offers, you can go to **www.brickengraver.com** and browse through his catalog.

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And neither are his bricks.

HPT

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