



People

A Great Crane Contraption



Article and Photography by Nicolas Lespour

“What happens when you give 4 LEGO Technic fans 25 of our Rough Terrain Crane sets and ask them to build something amazing?”

This was the question posed by the LEGO Group on a YouTube video released on October 13, 2018. The result was also shown on the video - a contraption where cranes and other machines rolled, turned or otherwise moved in sequence. What began as an uphill cabin on a rack culminated in a trebuchet launching a tire into a building made of Technic panels.

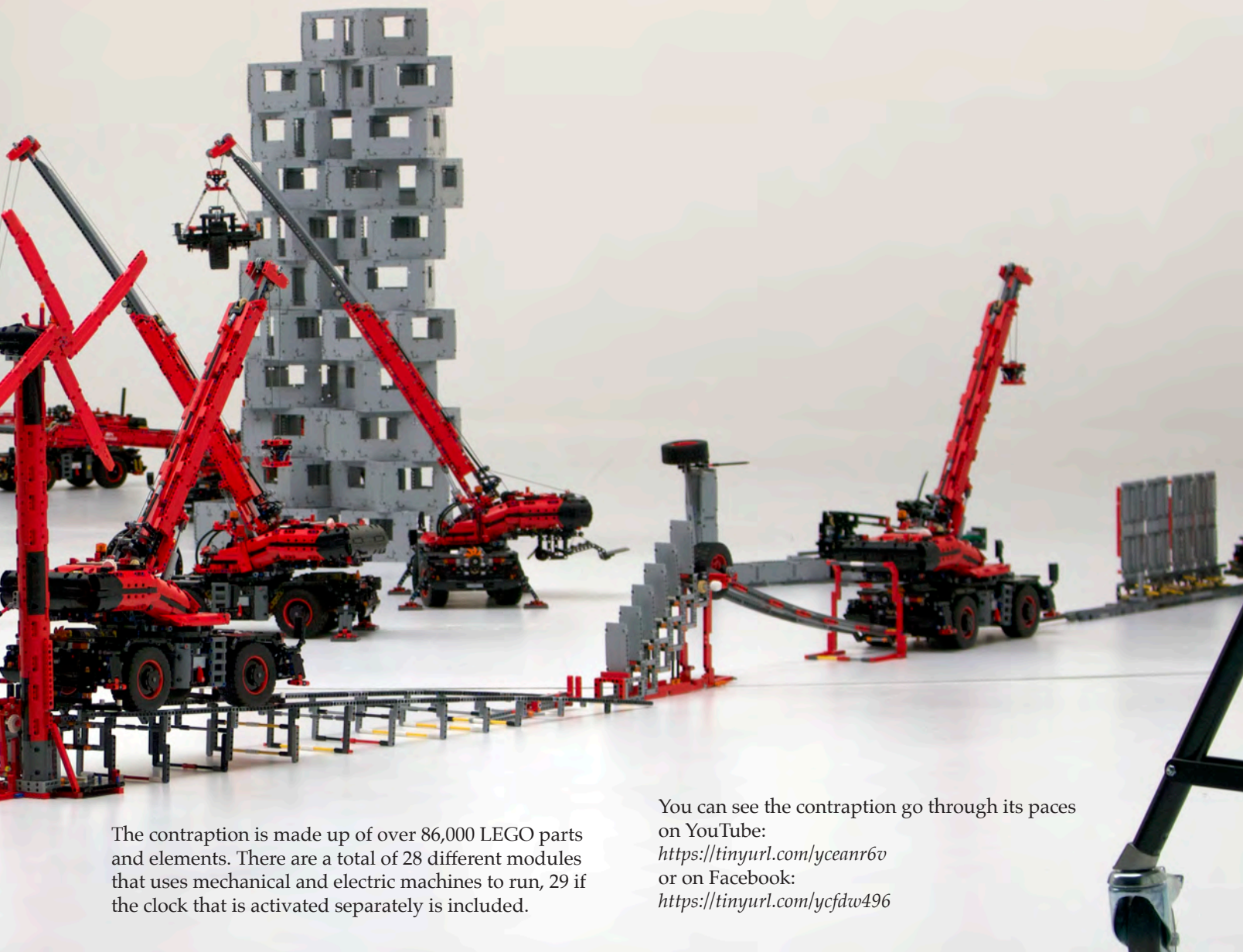
BrickJournal was able to speak to the builders behind this great crane contraption.

How did LEGO contact you? Did you know each other beforehand?

TechLUG has been an active group in the Lego Technic community over the last 10 years. As an Ambassador for TechLUG, LEGO contacted Régis Gamba during February 2018 to ask if our group would be interested in working on a secret project with an upcoming summer Technic set. After a few emails with LEGO, Régis knew the project would be cool. But as it was definitely not a one guy thing, he asked Alban Nourry, Maxime Alberti and I (Nicolas Lespour) if we were interested in such a project. And yes, we were ! After NDAs got signed, things went very quickly. Indeed, Maxime received the first Rough Terrain Crane (#42082) sets in the beginning of March.

How much time were you given to design and build your contraption?

We estimated that we spent about 650 hours. This



The contraption is made up of over 86,000 LEGO parts and elements. There are a total of 28 different modules that use mechanical and electric machines to run, 29 if the clock that is activated separately is included.

You can see the contraption go through its paces on YouTube:

<https://tinyurl.com/yceanr6v>

or on Facebook:

<https://tinyurl.com/ycfdw496>

estimation includes 10 hours of building time per Crane, the time to design the layout of the machine, building the various modules and modified cranes, and the tests to improve the final machine and make it reliable.

How was the layout designed?

We worked on the layout as soon as we had the cranes in our hands and built a few to have a rough idea of what we could do. Then, we drew the layout on a whiteboard with many ideas for the modules and modified cranes. We had to make a contraption which features the Rough Terrain Crane, so we decided to use cranes and modules to make movements with a start and a final point. After analysing the parts and the design of the crane, many ideas came to our minds. Eventually, we decided to make a zig-zag layout to put as many modules as possible in the area (which was approx 5x5 meters, or 16.4 feet square). As Maxime wanted to make a trebuchet, we decided to

put it at the very end with a tire thrown over the machine towards a building.

Who designed the machines that were built for the layout?

After the overall shape of the layout was decided, we divided the zig-zag layout into lines, I (Nicolas) made the first line with the clock, the cabin on the upward rack, the fan, the LEGO logo sign and the motorized steering crane. Maxime made the second line with the turtle module, the yo-yo and the rolling cages. Alban made the next line with the many driving and rotating cranes, plus the hamster module. Nicolas made two last module before the trebuchet: the destroyed house and the kinetic sculpture. And Maxime did the trebuchet. With that organization, we were able to test our lines at home and improve them. Each line was linked to the previous one by using a motorized steering crane. This was both convenient and simple to make the overall zig-zag shape. Of course,

The Contraption Builders



Alban Nourry

(Alban42800)

Alban is 45 and got back into building 11 years ago after his Dark Age.

He is a Technic fan and MINDSTORMS. Alban has participated in 3 robotic contests (Eurobot once, and Fribot twice) and made some Great Ball Contraption modules. On his blog <http://blogotechnic.blogspot.com> he used to do reviews of old and recent models and of my MOCs. Today, he is more discrete on the Internet. What he prefers to do in LEGO Technic and MINDSTORMS is to build something that is both useless and fun.

Maxime Alberti

(Buz)

Maxime is 31 and has been LEGO building since childhood, building with his older brother, to now, with a 3-year Dark Age during my studies. I have been building a solid 20 years doing mainly unfinished LEGO Technic creations.

Maxime does LEGO in his garage, not so much over the internet as he has no skill at editing video. He tries to go on small and medium-sized exhibitions in his area. He is working on building some Technic stuff or Great Ball Contraption modules. Like Alban, Maxime has participated in some robotic events. Maxime's Youtube username is buzlamouche.

Nicolas Lespour

(Nico71)

Nicolas is 29 and has been building since 2007, so 11 years have passed after his Dark Age.

He has been an active member on TechLUG from its beginning, and was moderator for several years. Now, he still does Technic creations every month, which can be seen on his blog here : <http://www.nico71.fr> . His creations are mainly vehicles and machines. Each time he creates something, he tries to offer building instructions so that people can reproduce his models.

Régis Gamba

(Anio)

Régis is 31 years old and has been into LEGO for 11 years, with the creation of TechLUG.

He does a lot of Technic reviews, but is not a Technic builder *per se*. Virtually all his MOCs are *Star Wars* related as he really loves to design UCS models. You can find his work here : <https://www.flickr.com/photos/anio-ucs/albums>

we did a global test in a large room in the middle of the project to make sure that we were working in the right direction.

How long did it take to set up the layout?

LEGO rented a studio for a weekend. We set up the layout all Saturday. It was rather quick to assemble the entire layout but we had to make many adjustments so that it worked fine. We also decided to change the orientation of the zig-zag and the location of the final tower because of filming and viewing convenience. Then, LEGO shot the machine on Sunday.


Did the layout work as expected?

Yes, the overall machine worked as we expected. We had to make a lot of tiny adjustments though, to make sure all movement sequences were ok. We also had to make some minor changes because some module were sensitive to the flatness of the floor, or because it required some last improvements. After we ran some tests, dead batteries were also something we had to consider, just like the way we rewound the winch or the placement of certain moving modules. LEGO did many shooting tests on Saturday to find out the best way of filming the machine.

Is this just a one-time project, or will this layout be seen at events?

This is just a one-time project. We built the machine and displayed it at the studio, LEGO shot the movie, and then the machine was taken apart. The goal for LEGO was to involve the community to build something amazing with the upcoming Rough Terrain Crane and to make two promotion videos : a one-shot on YouTube, and a more detailed one on Facebook.

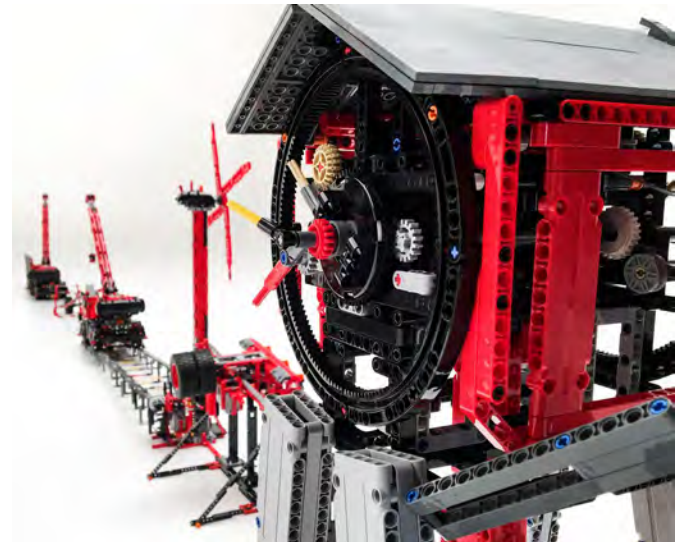
What is next?

At the moment, we don't know if LEGO will do future collaboration with us. But all we can say is that they appreciated working with us (and so we did !), and that we are welcome to Billund to meet again. 

Maxime and Nicolas take a look at one of the modules. This one has a turtle on the end of the black boom, which rotates to trip the wheel mallet in the foreground.



A closer look at the clock which actually functions with a pendulum mechanism.



Nicolas and Régis make some adjustments on the layout.

