



Moving rusty rock

By Hannes Tscherner

Somehow I always liked this slow moving bulky vessel as I saw it the first time in "A new hope". Its clear lines and its massive size stand against the force of the sand and winds, even in the harshest of desert conditions of Tatooine and keeps its small inhabitants safe. It's actually more than just a vehicle, it's a moving town. The Sandcrawler was originally used in its earlier days for mining purposes and was long abandoned before the Jawas rediscovered it as their new mobile headquarters, shops and homes.

More than its adventurous background I love the design, the sharp edges and the proportions of the model, a lot and I have always thought that the Sandcrawler never got as much love from the community as it deserves.

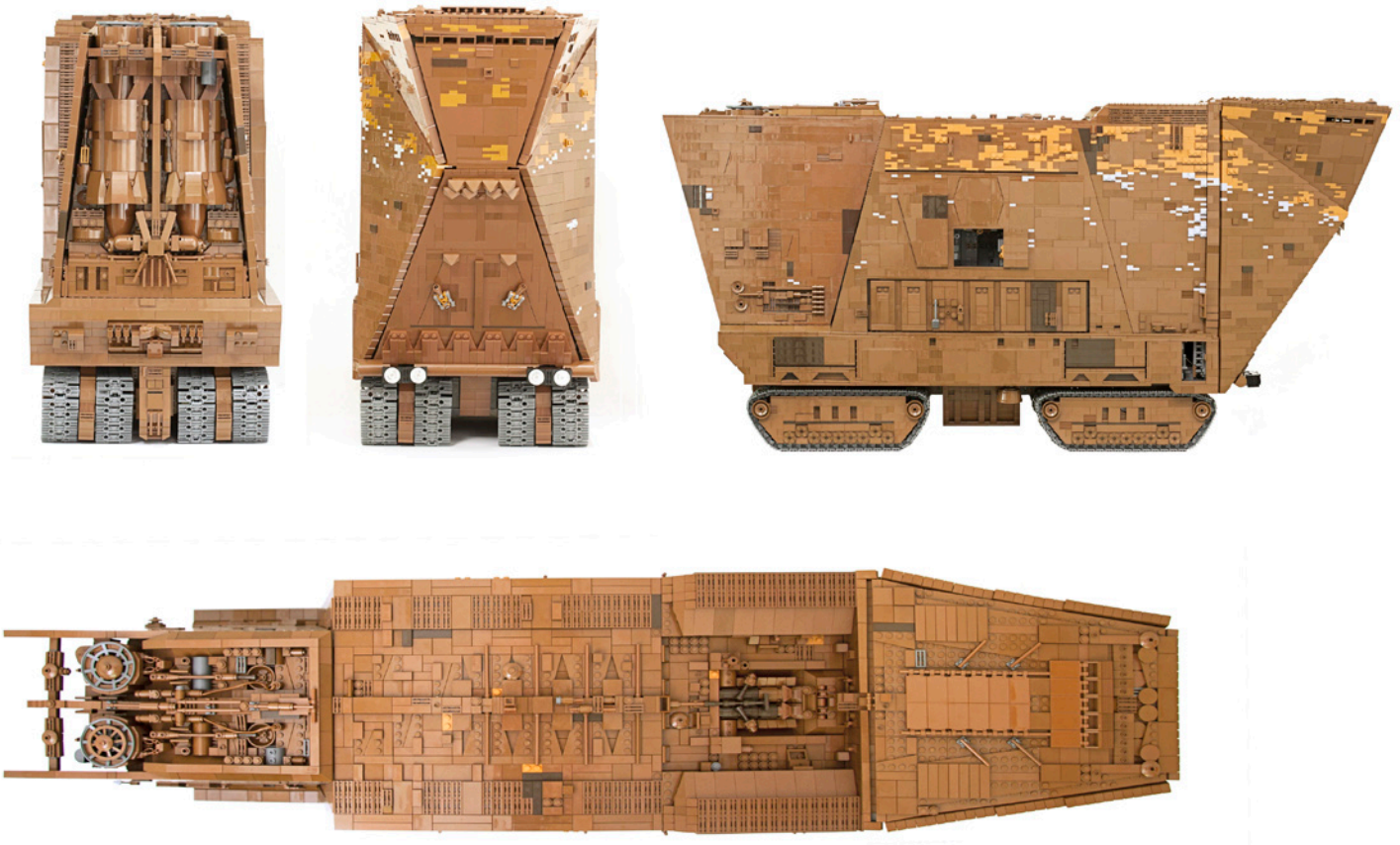
The plan – a monster is born

I was planning the build long before I even put one brick on top of the other. First I bought a copy of the official 10144

Sandcrawler set. It was a fun build and included a lot of playability and fun details, but overall it shows a low level of accuracy compared to the real thing. But there was no holding back for me – I bought the last two copies of the set at a local store on sale – a good start for my MOC! Then I just had to order all other required parts – in the end over 10'000. A packet from Sweden was the furthest away I got my bricks.

Firstly I researched pictures of the original studio filming model. It was easy because this is probably one of the best documented models of the entire Star Wars™ saga. I wouldn't start a project this size if there already existed an unbeatable MOC. Star Wars™ is a quite favored theme (not to say, worn out), so there are some really nice fan models around. I was aiming for a model with new aspects to set my project apart.

It should be both accurate looking – as close as possible to the studio model – but also stocked with fancy features like accurate lightening, power functions and a detailed interior. In the end my goal was to create a model with no compromises!



The build – how to become 10 years older in just 9 months

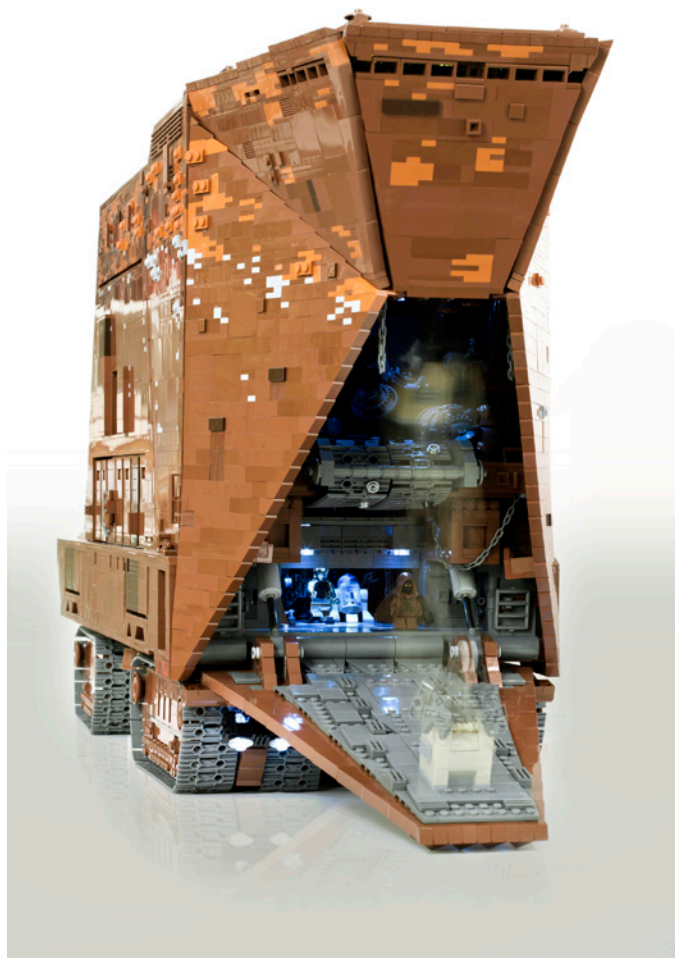
The model itself is not a very complex designed – it is just a big brown box! That was also my first thought, but there are more unusual angles than you may think at first sight. Until I was finally satisfied with the result, I ended up rebuilding the whole model three times and the most difficult bits many more times during the process. I'd like to tell you more about three important spots:

The back: one of the flashiest details are the two large cylinders, actual the power generators of the vehicle. I found a solution with curved slopes connected with snot adaptors on the greebly base plate. The cylinders are sticking through the roof and ending in different designed fans or exhausts.

The front: the forward sweep of the crawler's body is probably one of the most complex parts of the build. It consists of irregular angles. I had decided to build all panels with bricks instead of using plates – this decision didn't make the whole endeavour easier, not at all! It might sound ridiculous, but achieving the proper angles took me weeks of developing and trial and error.

But I found a solution to link them with multiple hinges and jumper plates and in the end the result was an astonishing sturdy – and more important – accurate front.

Wall pattern: I achieved the rusty and weathered appearance of the walls with different shades of brown and the use of dark orange and bluish grey splashes as seen on the original model. Some of the bricks are placed studs out to add more



depth. Reddish brown is probably the most inconsistent color – one color, a thousand shades! But for my model that's ideal, therefore it was possible to get a naturally appeal.

The functions – ok, now it becomes crazy

The biggest challenge of the project was to include all the ideas and functions I had for my Sandcrawler. If you are not excited yet, then you will probably be now!

One of the main features was to create a fully working remote controlled driving and steering mechanism powered by 4 geared down Power Functions XL-Motors. Because of the final size of 100.5 cm and the enormous weight this was quite a crazy intend. Not only were there four sets of double tracks, with a total of 360 treads, they had to match on the gearboxes and had to work. I decided to use only official LEGO® parts. So the gearboxes and treads are under high stress and they are running close to the limit of the material. Therefore I had to adapt my concept to include the possibility for an easy maintenance and repair. All crawlers are connected with just two axles to the main frame of the model so it's easy to remove them.

The steering mechanism is designed as simple as possible. Because of the restrictions imposed by weight and length, there was no room for a complex mechanism. Here I took the same technique tanks use in real life: one pair of crawlers is turning in one and the other in the opposite direction, so the Sandcrawler turns on the spot – simple!

The next huge task was to design a working main ramp. The



mechanism had to be compact to leave space for the interior. I used two linear actuators and two M-Motors. Both are hidden in the floor. It was essential to find the right pivot point of the ramp to match all angles nicely together after folding the ramp up.

I also decided to include a working conveyor belt on the second floor, an important detail of the workshop. It carries all charges into the back of the assembly shop and to the smelter. The big crane picks up charges from the main ramp and takes them up to the second floor on the conveyor belt or directly into the back of the main hall.

Interior

The interior is placed in the front half of the model and contains three floors.

From bottom to top:

The storage room: This is where all the droids are kept including R2D2 and C3PO. It's a dark and messy place with junk on the floor and chains hanging down of the roof. The shadows are painting diffuse patterns on the floor.

The workshop: In the front there is the main conveyor belt important for sorting scrap from junk. It leads directly to the glowing smelter. In the back of the workshop there are the second crane for assembly proposes and the tubes on each side of the hall.

These lead to the gallery where the Jawas can control the main crane for handling heavy charges and further to the upper levels of the Sandcrawler.

The cockpit: You want to have full control of the Sandcrawler? Then this is the place to be!

After nine month it's finally done: one of my most ambitious projects. But there is no time to get sentimental – I already have new ideas in mind so let's see what the future brings.

Overview

Minifig scale: 96 cm long, 100.5 cm long (lowered main ramp)
 Weight: approximately 20 kg
 Part count: over 10'000
 Power functions: 4 XL-Motors, 5 M-Motors, 4 receivers, 4 battery packs, 22 LEGO® LED-lights

Powered radio-controlled Functions:

- driving: forward reverse
- steering
- Main ramp: up and down
- Crane: up and down, in and out
- Conveyor belt: forward and reverse

Other features:

- Full interior on three floors in the front half of the model and a detailed cockpit (removable roof)
- Second crane in the back of the workshop, lighted smelter.

Building and planning time: 9 month
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