PRODUCTION GRAPHICS

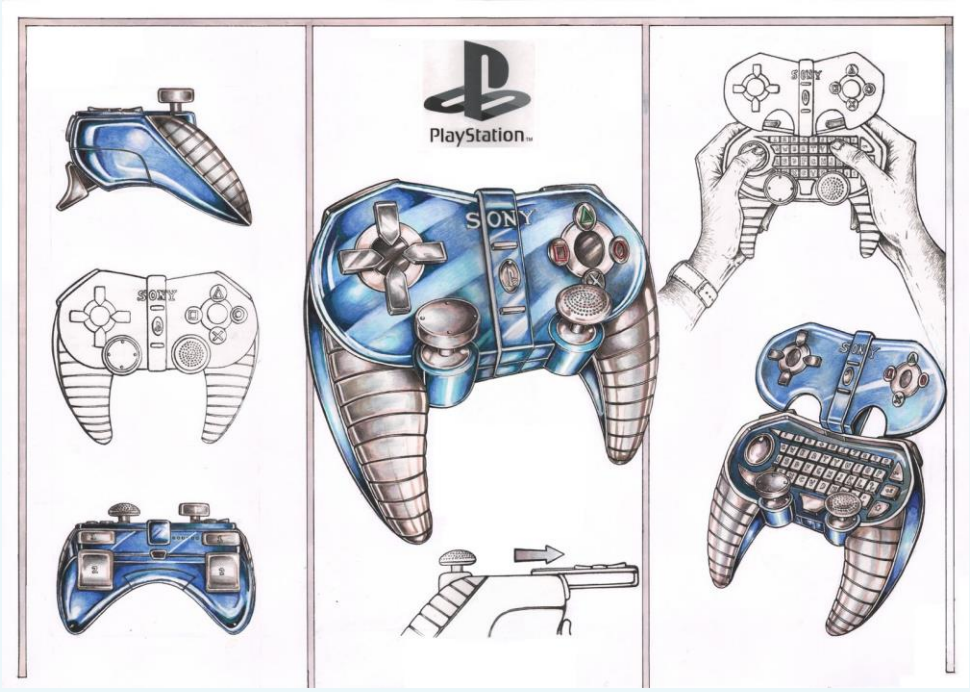
Year 12 Graphics

McTurkeyBurger

PLANNING

The use of graphic communication in real life – production & marketing

Graphic communication is used in the production and marketing of commercial industry products by utilising various elements such as symbols and images like drawings and photographs. It can also include more subtle things like substrates (underlying layers), color and environment.

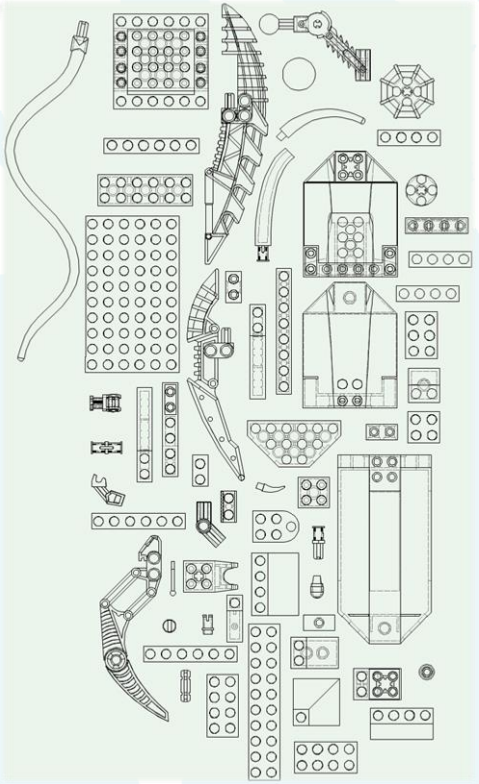


It is more economical to design and test a commercial industry product using graphic communication first to ensure that it meets the clients needs and performs as expected rather than mass producing the product first only to have it fail.

Without graphic communication there would be limited new products actually produced; it provides the ability to design multiple innovative concepts for new or improved existing items such as, electronics and mechanical items.

Client Needs

The client needs for both the consumer and the manufacturing company are basically similar however they are executed differently. The manufacturer needs to be provided with full working drawings and the structure of the product for them to build whereas for the consumer to want to buy the product they need to be provided with how it looks and the marketing hype to entice them to buy.



- Easy to build, but with a challenge, for the consumer using the simple and easy to follow pictorial instruction manual
- Once it's built it looks like what is on the packaging cover
- Have parts that move to allow for fun interaction and imaginative play
- Efficient and cost effective to make for the manufacturer thus making it cheaper for the customer. This can be achieved by ensuring that detailed drawings are supplied to the manufacturer
- Doesn't break easily therefore higher customer satisfaction with the product which may in turn generate more purchases of products from the same manufacturer

Research of Similar Products

Metal construction set – Meccano

Meccano is a model construction system consisting of re-usable metal strips, plates, angle girders, wheels, axles and gears, with nuts and bolts to connect the pieces. It enables the building of working models and mechanical devices. The reason I did not choose this system is because:

- Metal costs more to source and produce and is harder to work with
- You need tools to build the item where as the product I have chosen can be put together by hand
- The metal can have sharp edges which poses a greater risk of being cut by it
- The metal can become quite hot if left in the sun/ near a heat source

http://en.wikipedia.org/wiki/File:Meccano_motorcycle3.JPG

http://en.wikipedia.org/wiki/File:20030514_160101-Meccano_set-rt1.jpg

Plastic Construction sets - K'nex, Tinkertoy, and Bionicle

These types of systems consist of interlocking plastic rods, connectors, gears, wheels, and other components, which can be pieced together to form a wide variety of models, machines, and architectural structures. I have chosen this system because:

- Plastic is fairly cheap to source and can be melted down and poured into moulds to get the desired shape
- Plastic doesn't hold heat well
- Plastic is less likely to cut you

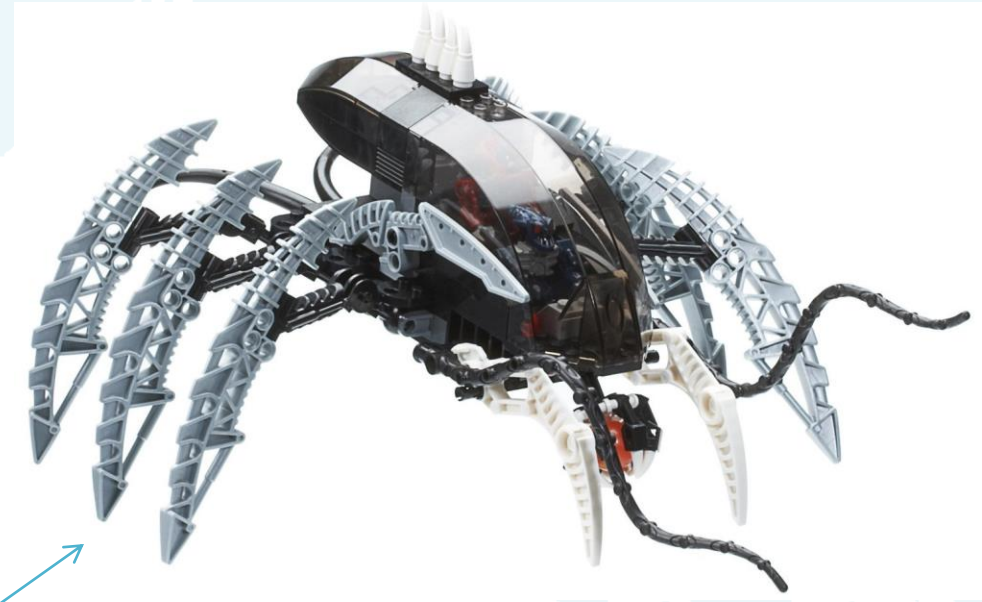
http://en.wikipedia.org/wiki/File:Knex-bridge.jpg

http://en.wikipedia.org/wiki/File:Tinkertoy_300126232168_.JPG

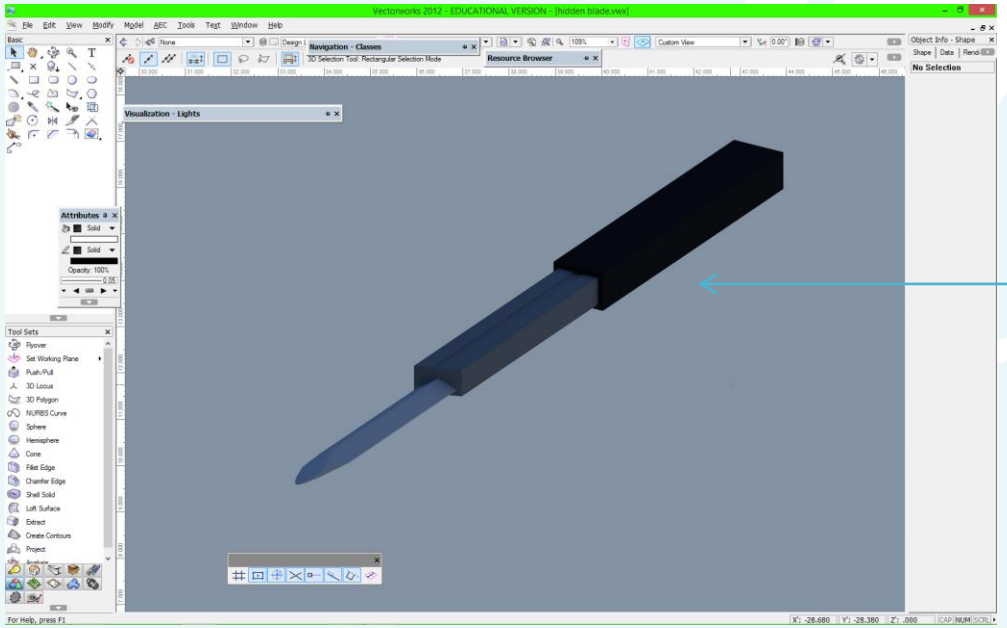
Evaluation

After researching a number of products that I could use to communicate the essential elements of to a consumer audience and a manufacturing company I decided on the above bionicle.

The bionicle will be made from tiny plastic chunks called granules, this material will be good for the bionicles as it can be superheated and melted down into a plastic goo which can then be poured into a mould.



I have chosen this because not only does it meet all the requirements in the criteria, it also provides me with a more technical challenge while allowing me to fully communicate all the essential elements.

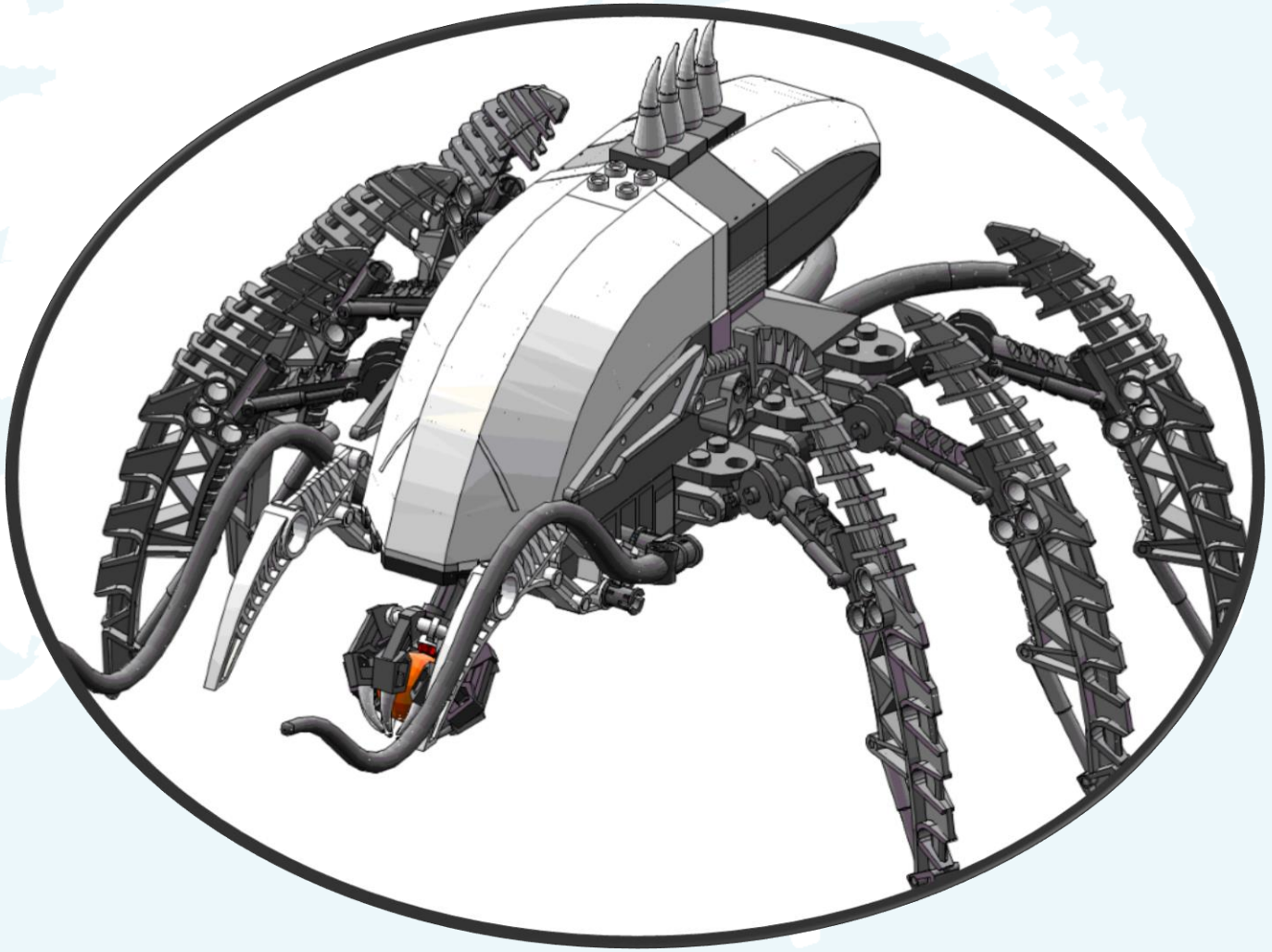


The reason I didn't choose the hidden blade on the left was because it was too simple and didn't meet the requirements in the criteria for the minimum amount of parts.

Product Choice

The topic of this assignment is Production Graphics where a folio of graphical representations communicates the essential elements of a chosen product for both the consumer audience and a manufacturing company.

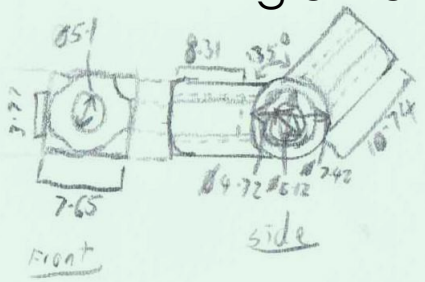
The product I have chosen is the transport vehicle from the deep sea patrol bionicle set. As this product has more than the required 10 moving parts I will only be measuring the 10 key components.



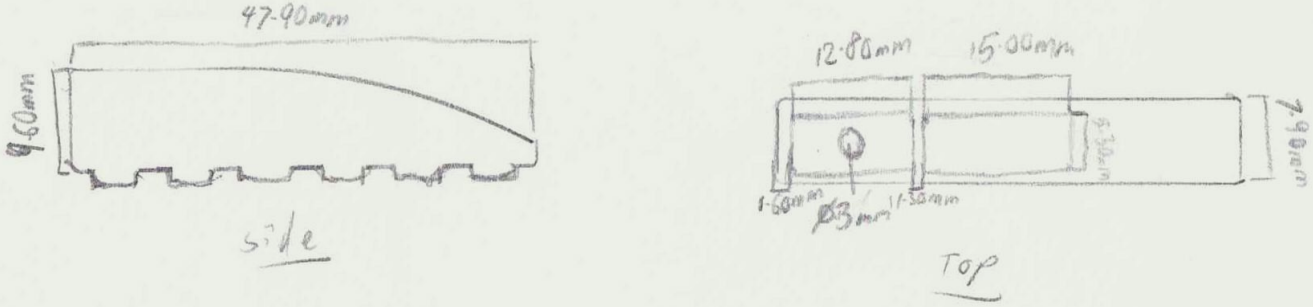
Components - Sketches

1 - Brick 1X6 W/Bow

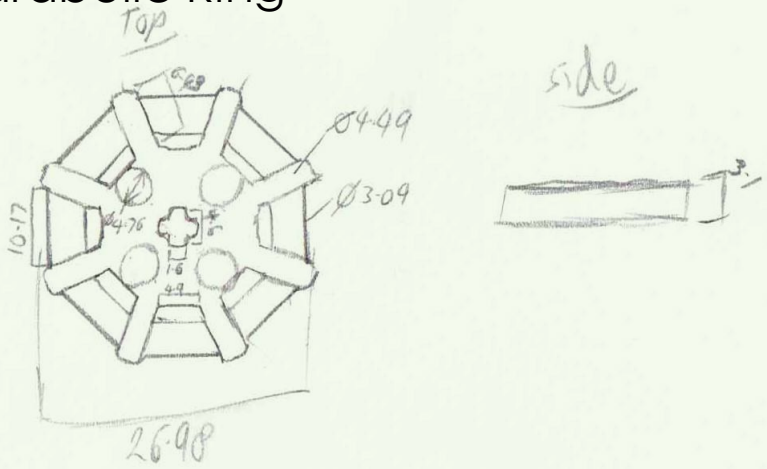
2 – 1Angle Element 135 Deg. [4]



3 - Brick 1X6 W/Bow, Rev.

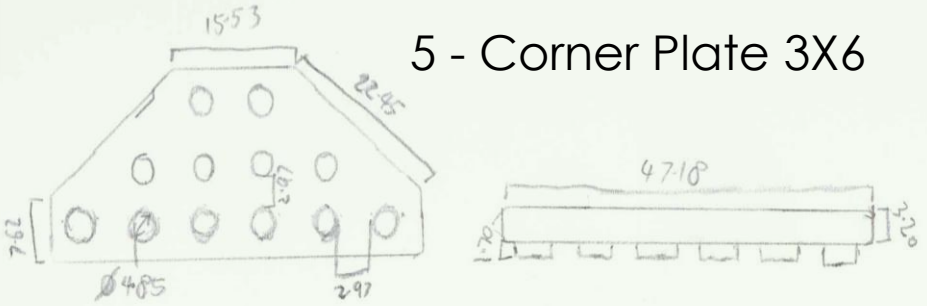


4 - Parabolic Ring

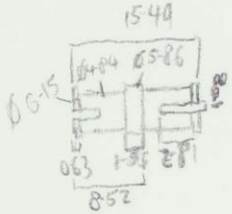


Components – Sketches (Cont...)

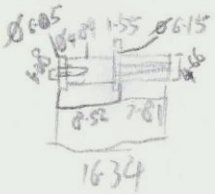
5 - Corner Plate 3X6

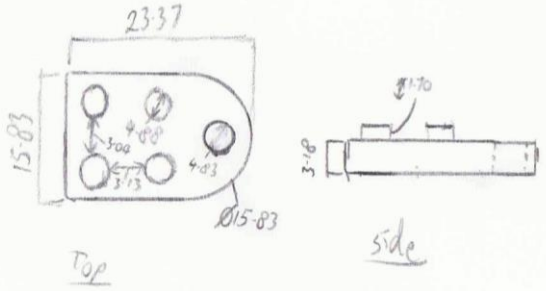


6 - Connector Peg W. Friction

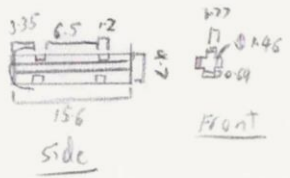


7 - Conn.Bush W.Fric./Crossale



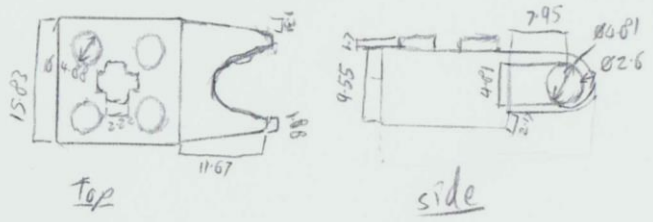


8 - Coupling Plate 2X2



9 - 2M Cross Axle W. Groove

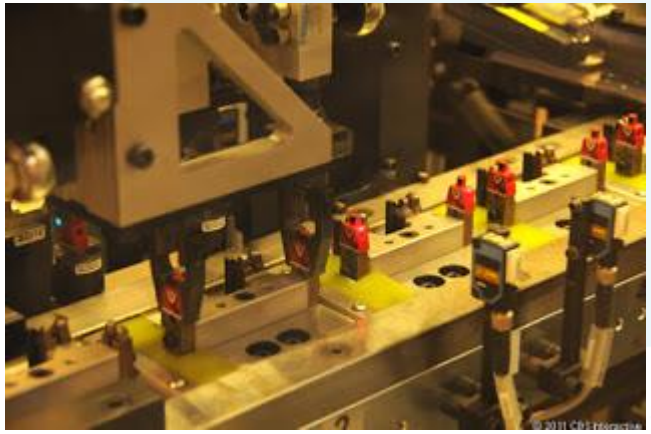
10 - Brick 2 x 2 with Ball Socket and Axlehole



REFINEMENT

Manufacturing Techniques

The manufacturing technique best suited for this product is mass production or a production line similar to a vehicle factory. A production line would be the best technique as the product will have a lot of parts that are identical. The entire production process will be automated aside from a few steps that a human will have to do such as: delivery of the materials to the storage warehouse.

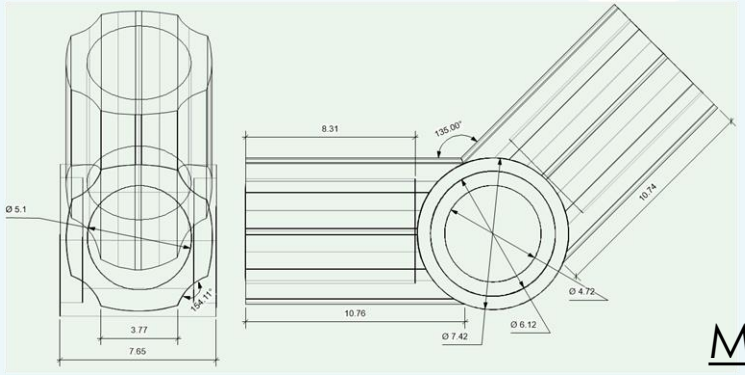


Images of a Lego production line

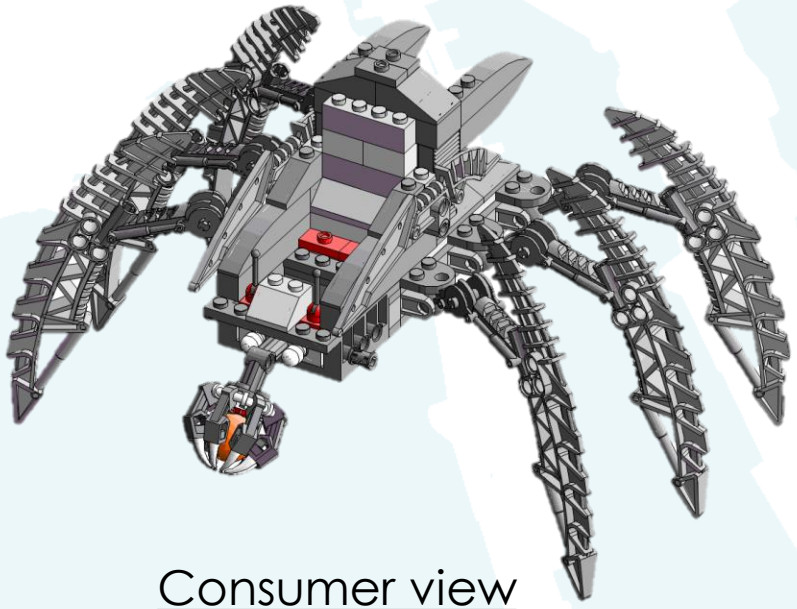
Viewing systems for the client

Selecting the most appropriate viewing system for the intended audience is critical as it provides the customer or manufacturer with a snapshot enabling them to get an initial idea of the product.

The manufacturer will need a very technical version with views that show the lengths of the major and minor features in necessary detail. These views will include Top, Front, Back, Right, and Left which are the easiest to produce a product from because they are very simple. When presenting a concept drawing to a client you would normally not use this because it would be hard for the client to visualise it. The client drawings would contain a lot of isometric views that are polished and are very appealing to the eye. A client is more likely to agree on an idea if it is presented in conjunction with how it could be played with. In the clients portfolio I will be using mainly isometric views, however the manufacturer will be provided with a set of detailed views.



Manufacturer view



Consumer view

Finishes

It was decided to use a the respective renders to each part (e.g. clear plastic parts such as the front and rear cover being Glass Blue 02 and the more general plastic pieces to be a solid colour (between 0% grey and 80% grey). It was decided to use the clear render because it shows the internal hidden components of the product as shown below (right picture) .

Fits and Tolerances

For this product the tolerance would be approximately 0.01 mm as there are multiple parts that require a perfect fit on the joins to ensure that it wont fall apart.

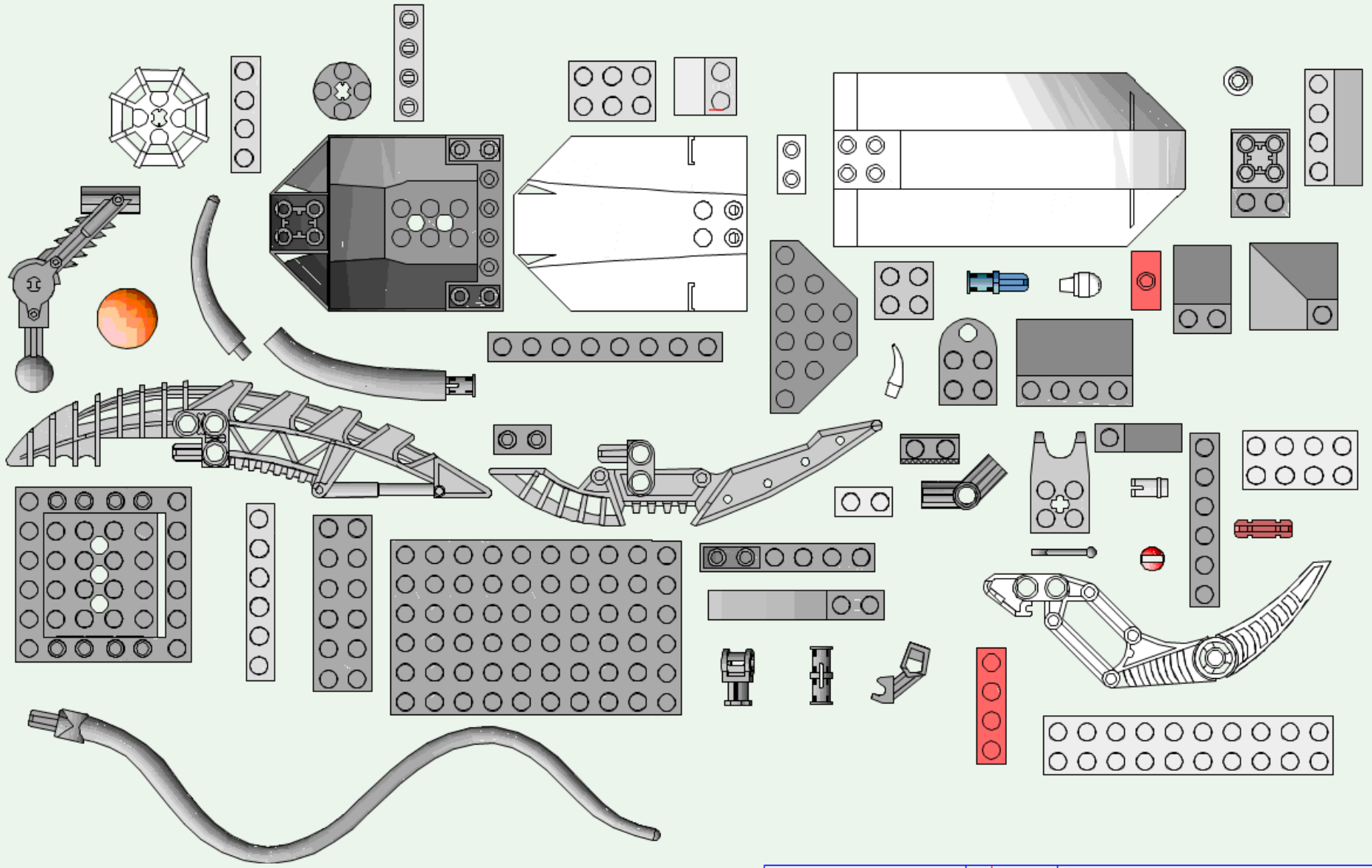
Reflecting & Justifying

It was decided that the final product was to be made with the use of a Production line. The product is to be made of mainly plastic chunks called granules. It will be made in separate parts and be assembled by the client using the provided instruction manual. When the product is drafted in a CAD program it will be shown with a Realistic Exterior Final render. It is to be shown in a view that is most appealing to the client while still showing that it is a toy.

Raw Granule Materials

Finished product


PRODUCTION



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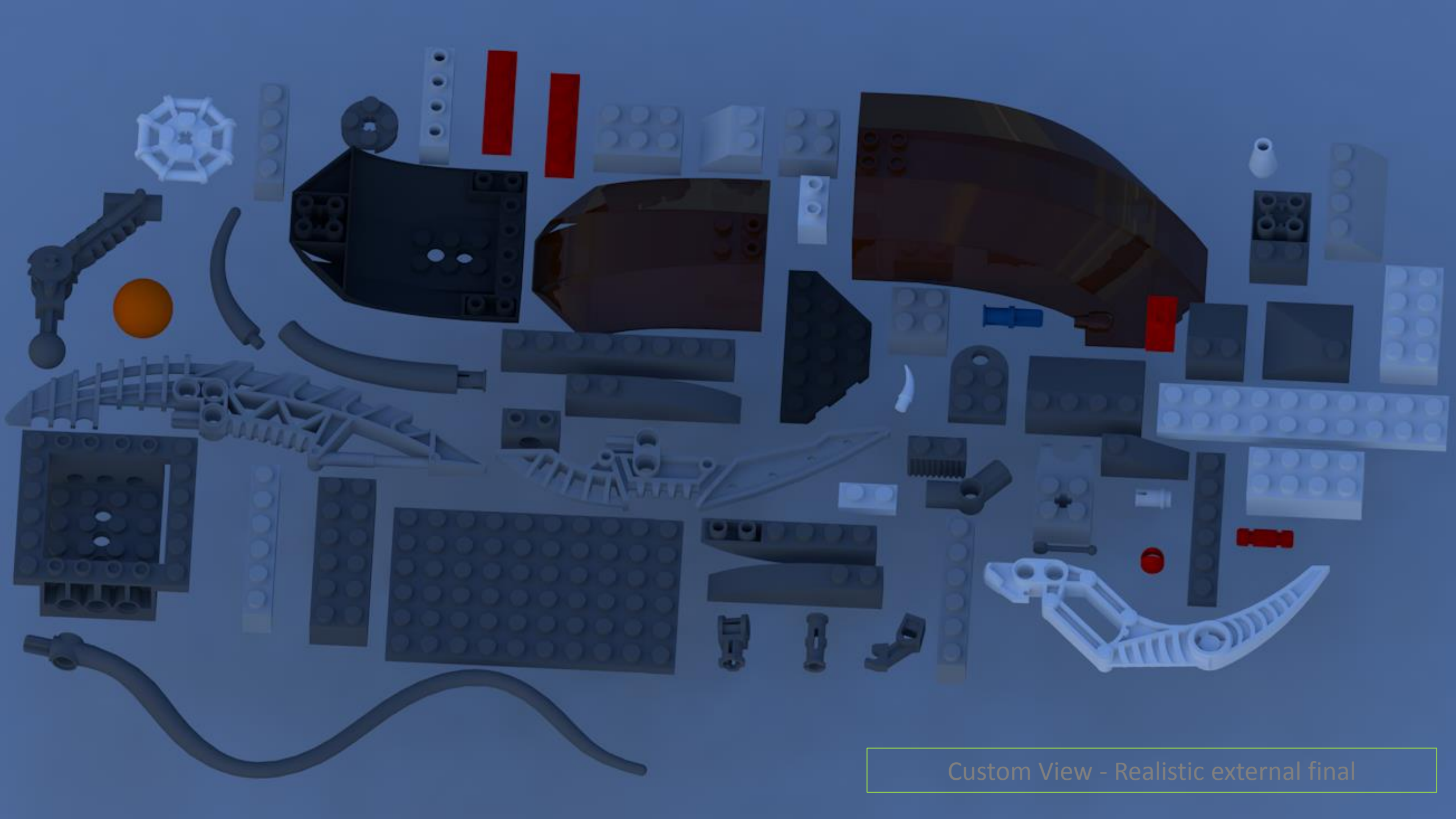
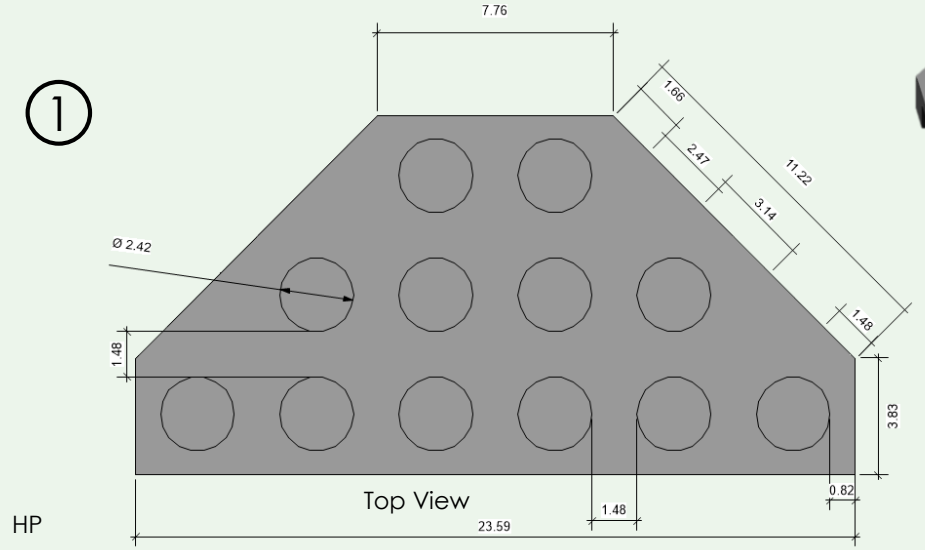
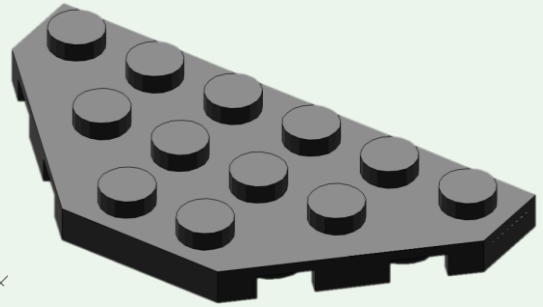
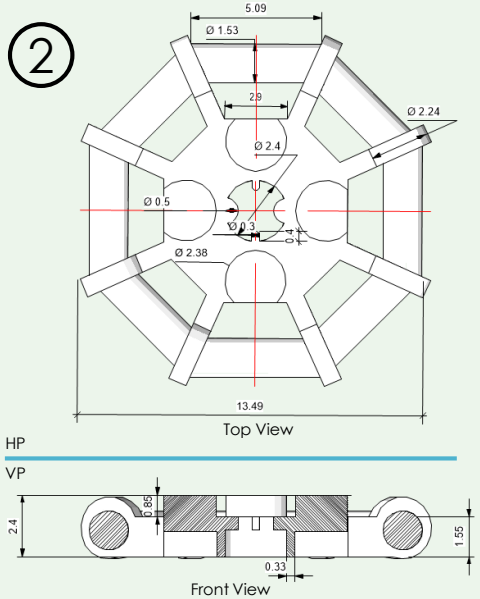
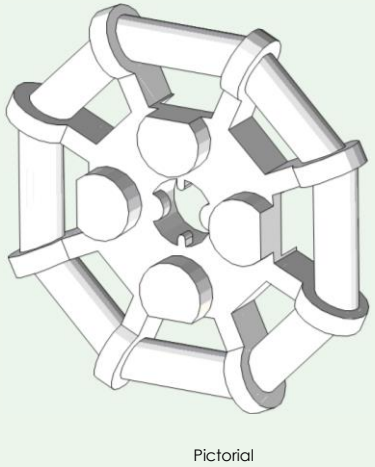
	DRAWN BY	McTurkeyBurger	CRA


Custom View - Realistic external final









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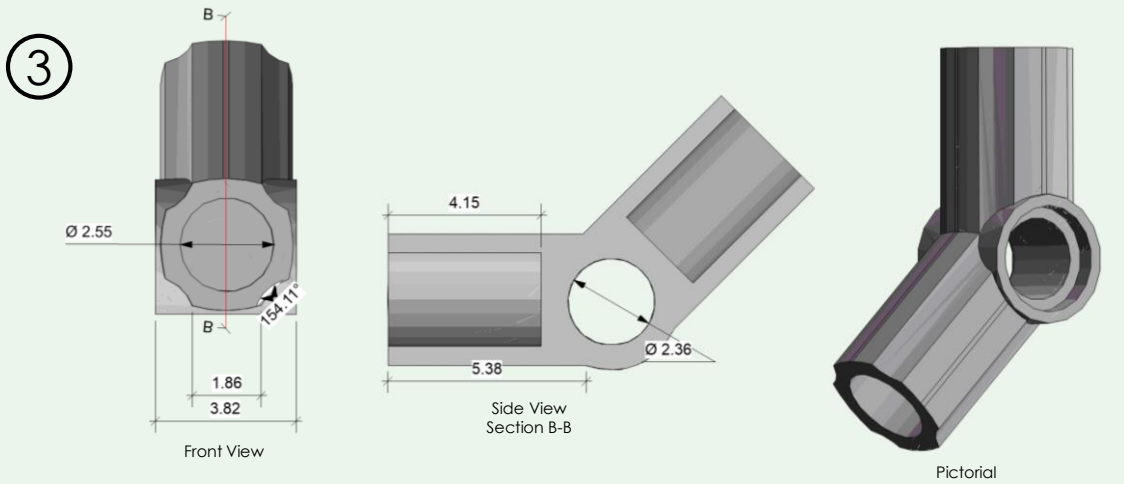

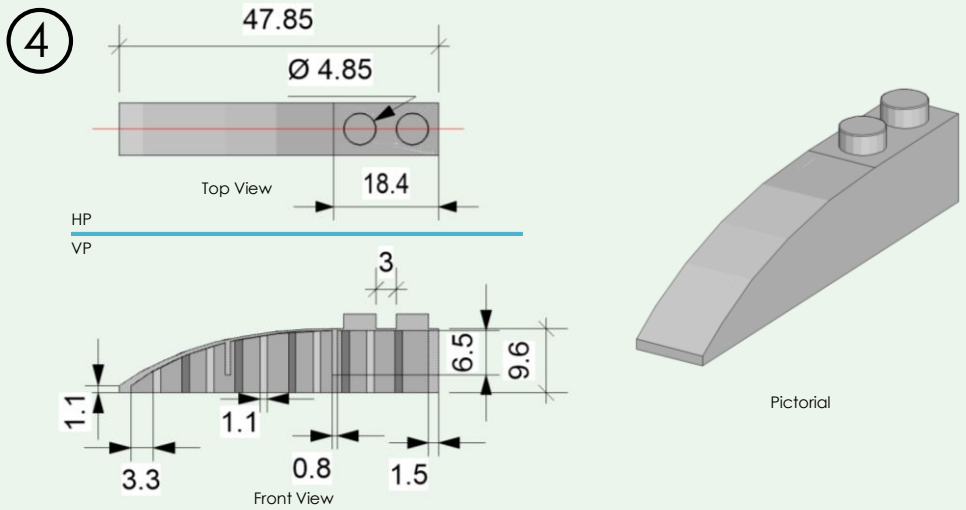

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	DRAWN BY	McTurkeyBurger	CRA

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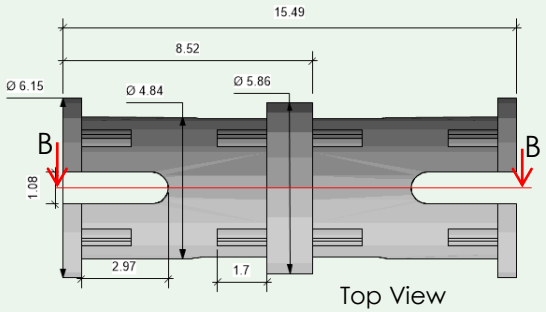
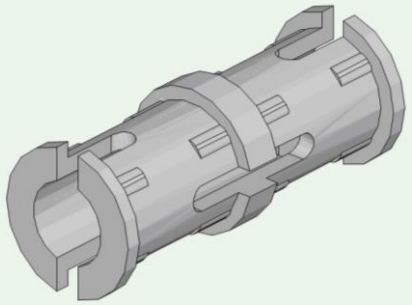


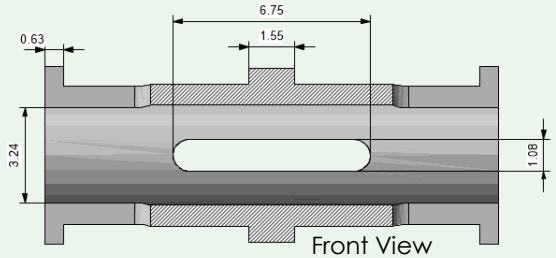
Top View



Pictorial

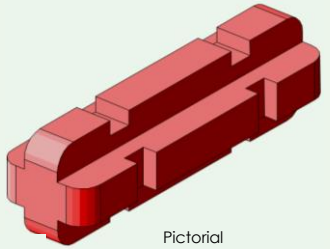
HP

VP



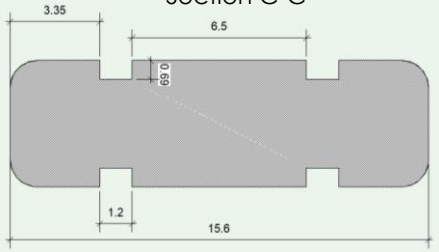
Front View
Section B-B

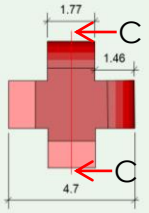
6



Pictorial

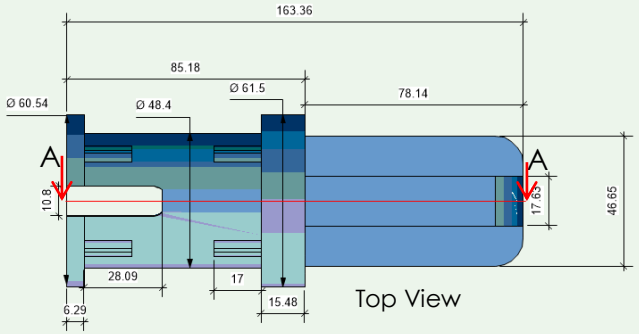
Side View
Section C-C



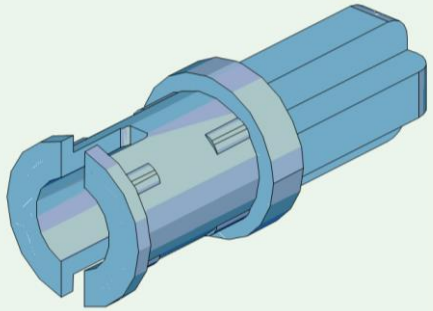


Front View

7



Top View



Pictorial

HP

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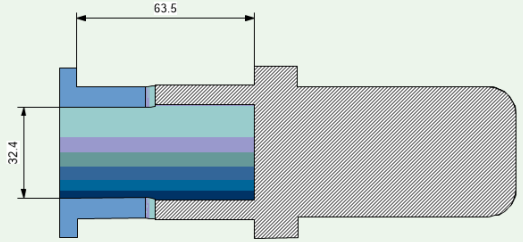
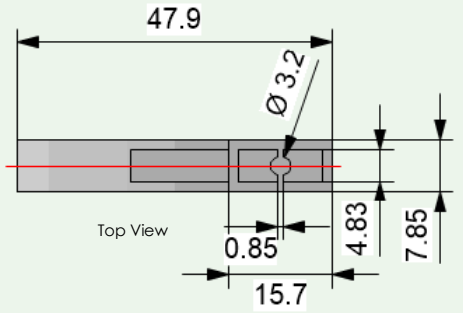


Front View
Section A-A

8



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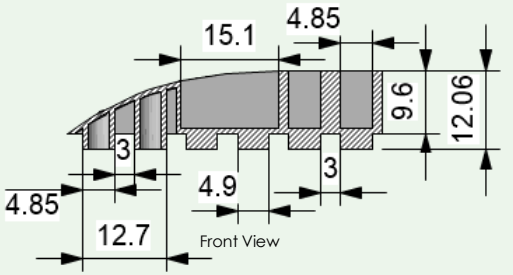
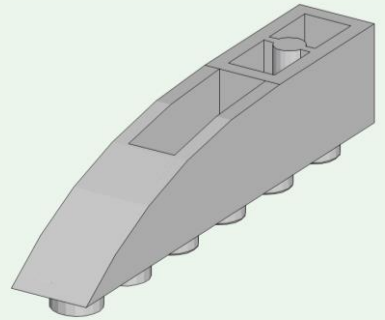


Front View



Pictorial

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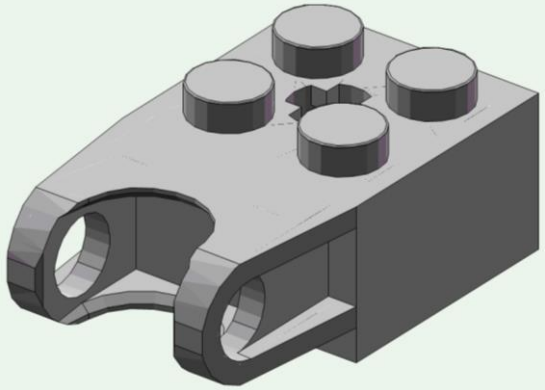

Pictorial

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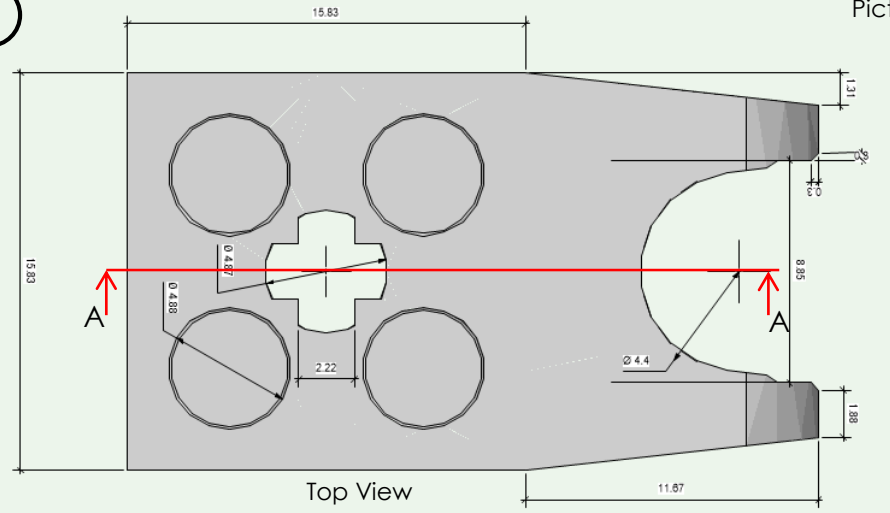

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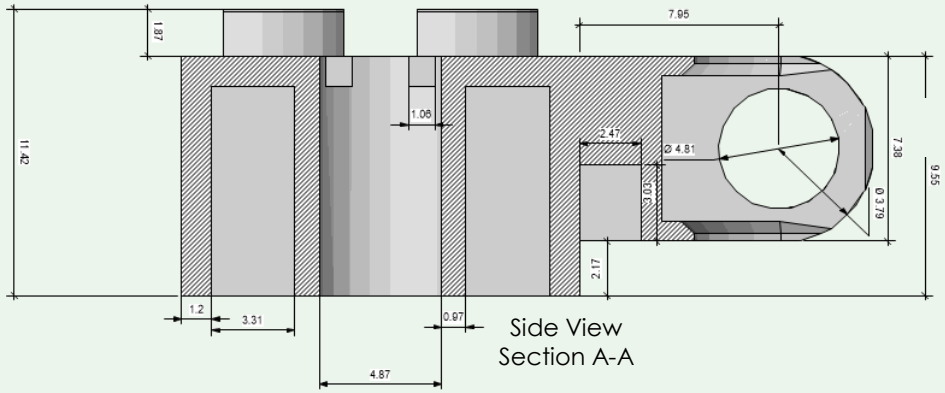
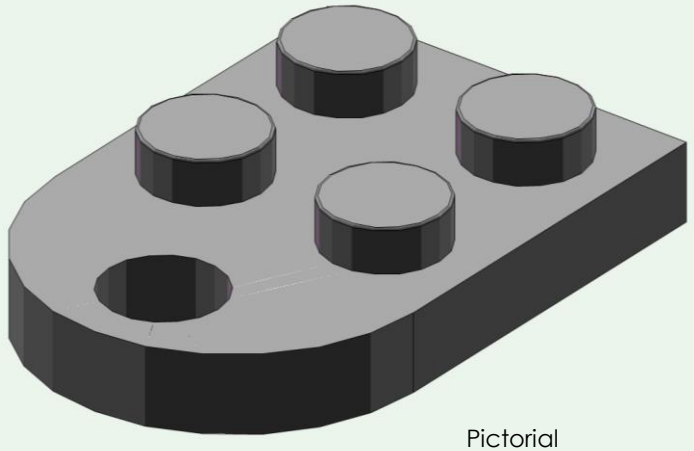
Top View

VP

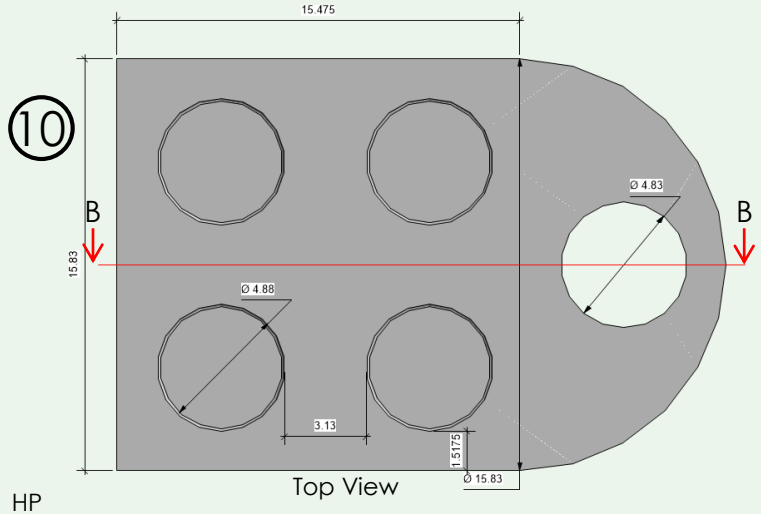


Side View
Section A-A



Pictorial

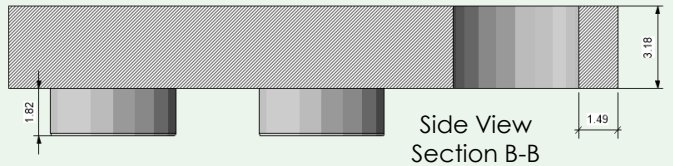
10



Top View

HP

VP



Side View
Section B-B

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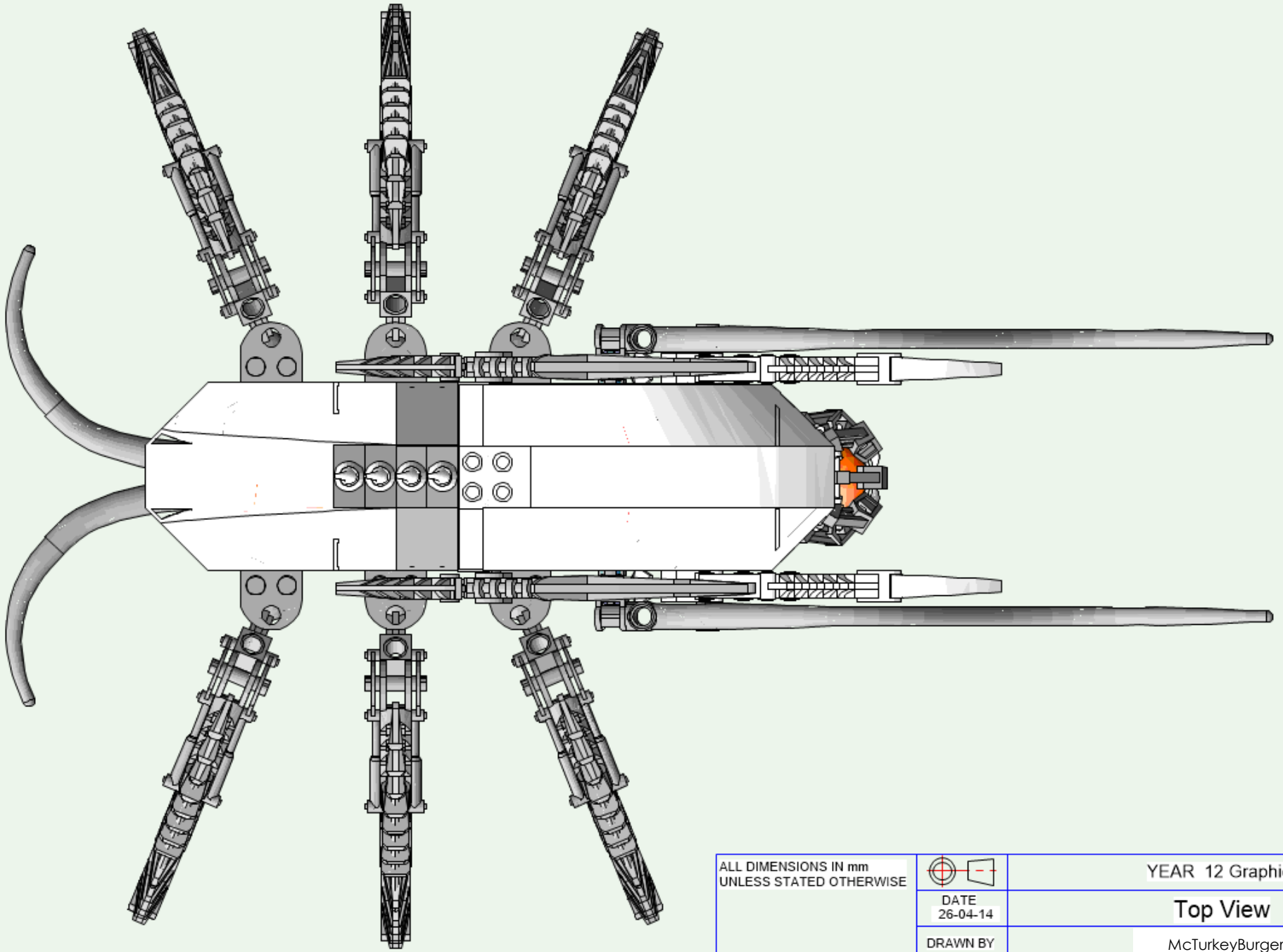

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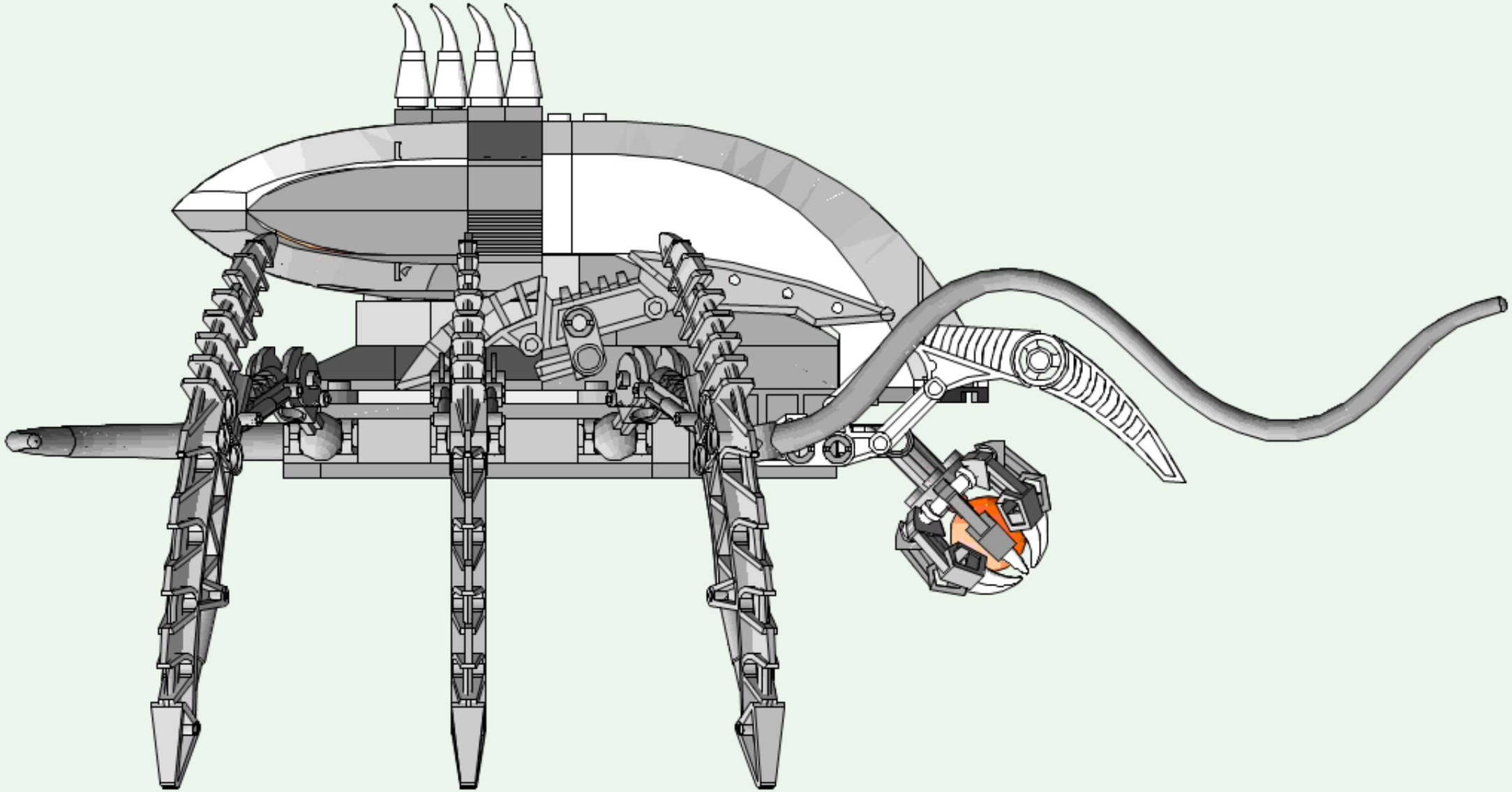

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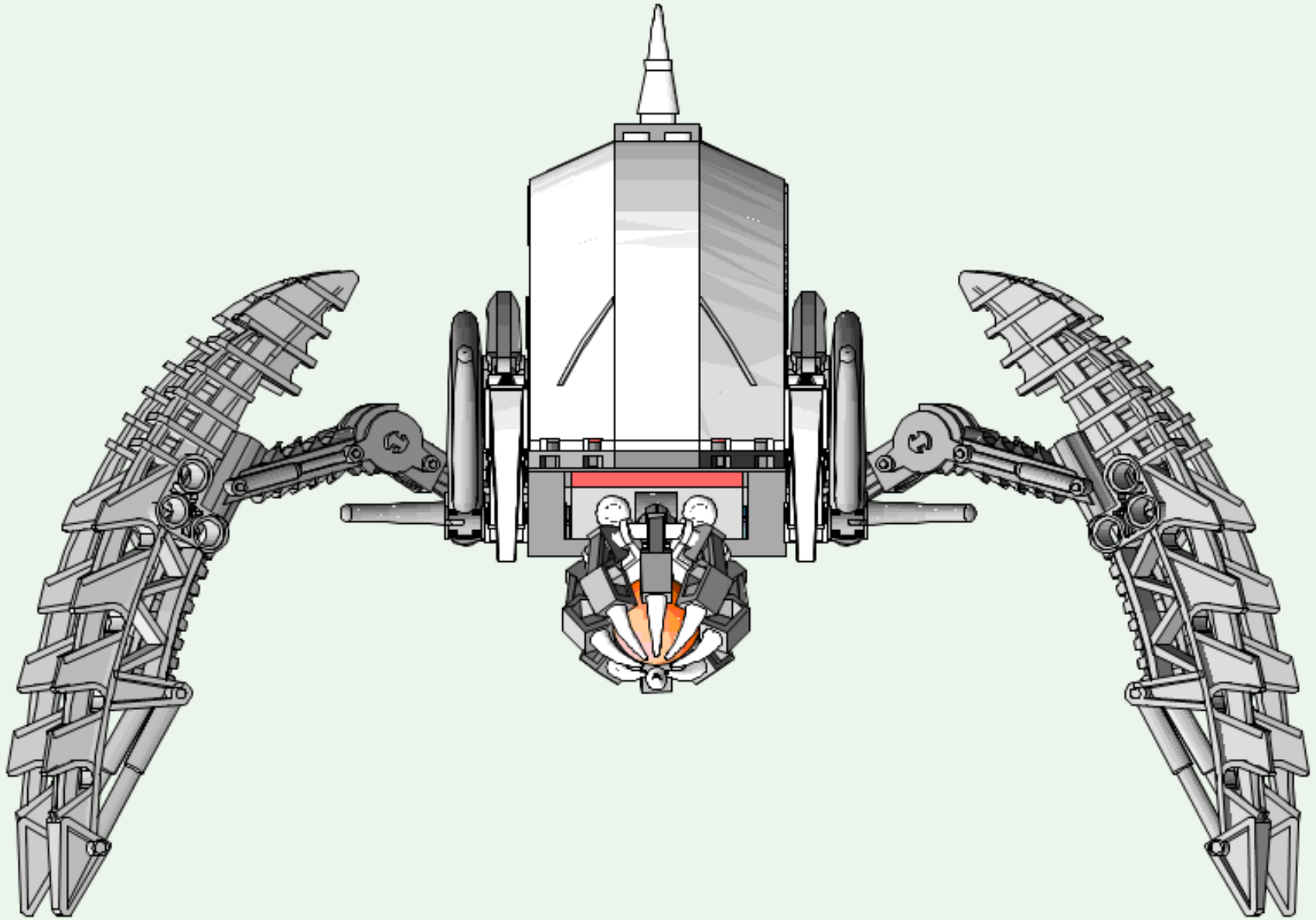

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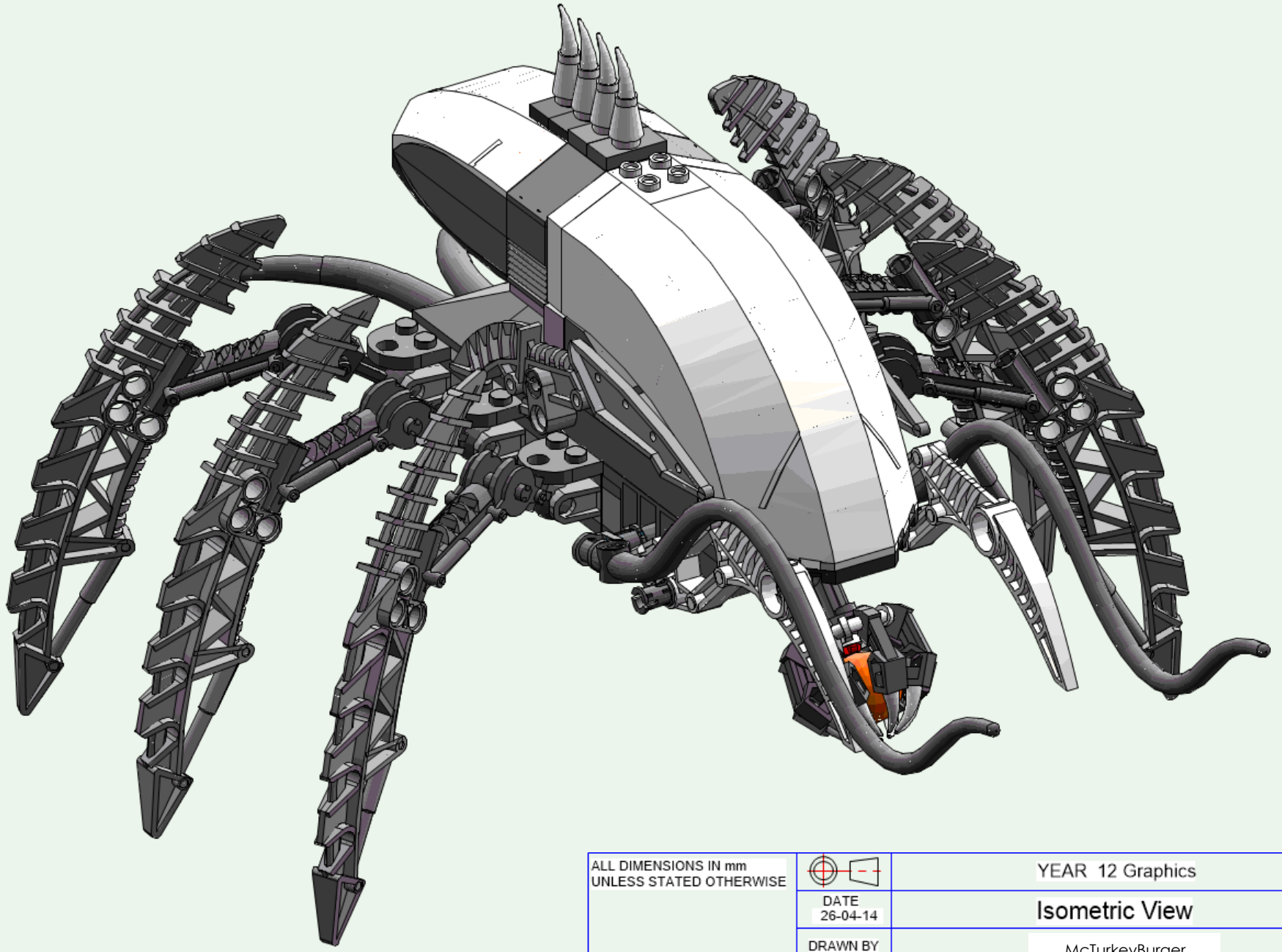
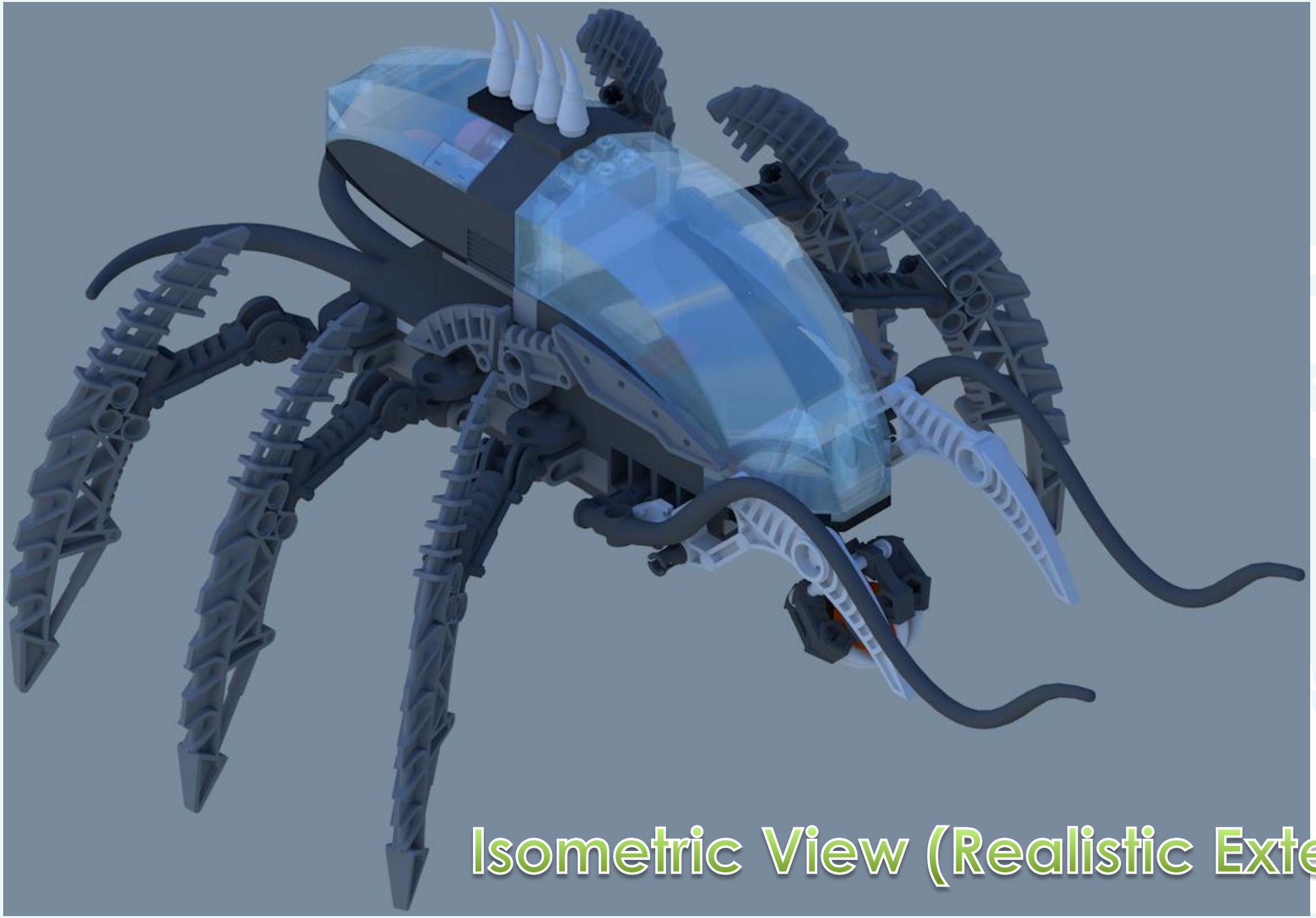
	DATE 26-04-14	Front View	SCALE 1:1
	DRAWN BY	McTurkeyBurger	CRA

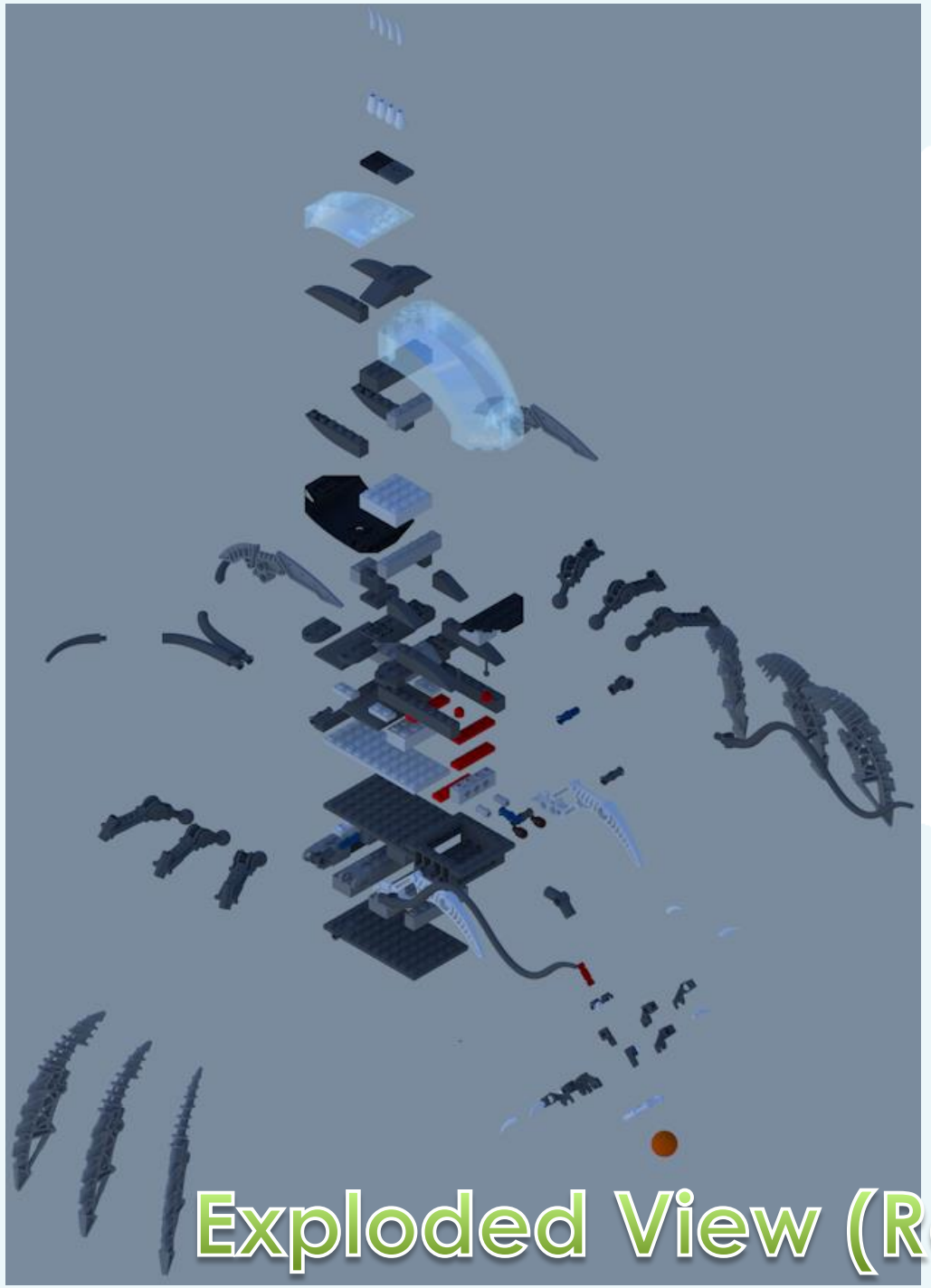


ALL DIMENSIONS IN mm UNLESS STATED OTHERWISE		YEAR 12 Graphics	SHEET : 1 OF : 1
	DATE 26-04-14	Isometric View	SCALE 1:1
	DRAWN BY	McTurkeyBurger	CRA



Isometric View (Realistic Exterior Final)

Exploded View (Dashed Hidden Line)



Exploded View (Realistic Exterior Final)

Final Rendered Product