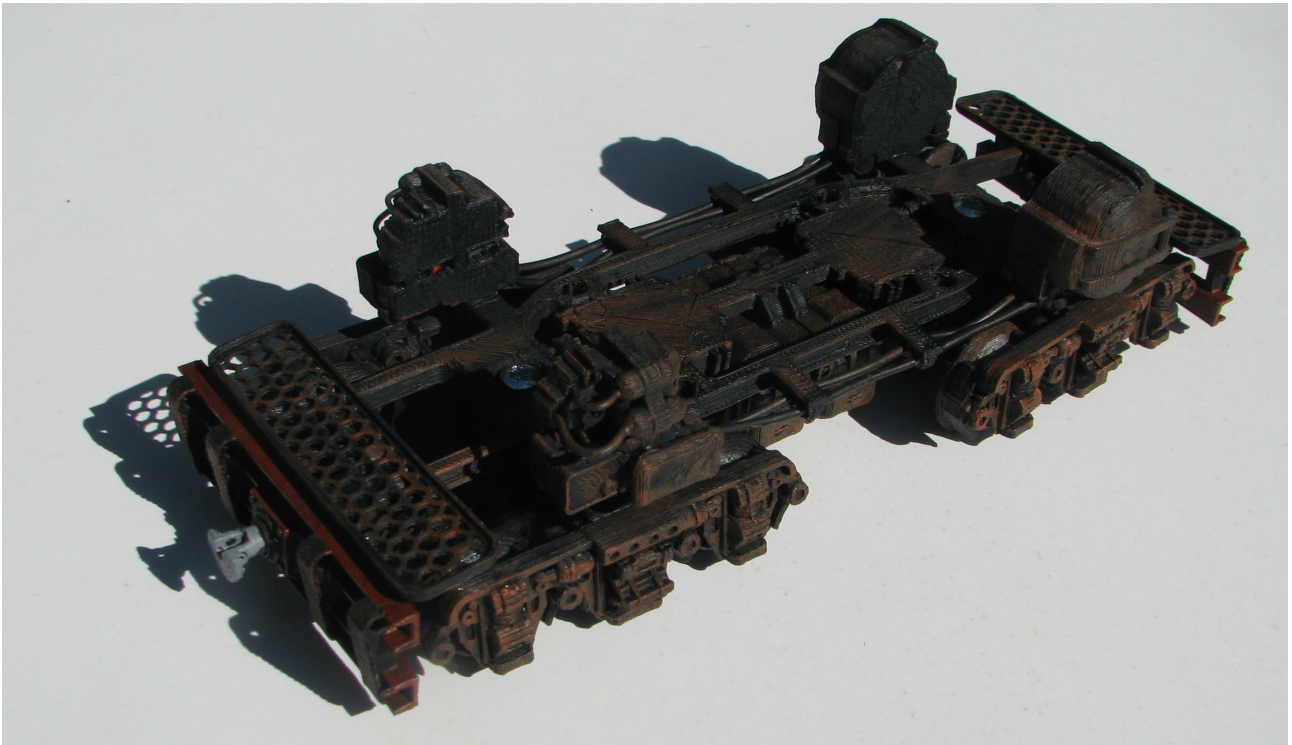# Railcar Chassis Assembly

This model is designed to be fitted to a 1:24 scale car body. Die-cast models work very well, but 3D printed car models also work well.

1968 Chevrolet Camaro Maisto Die-Cast Metal Model

3D Printed DeLorean Model Adapted From by heisenberg333's Design
https://www.thingiverse.com/thing:2788908

You may need to adjust the chassis to suit the model but the only adjustments will be to the Main support frame (*Railcar-Mainframe.stl*) length and space between the arms that support the wheel arch detail bits. The mesh has a relatively low polygon count and set out in such a way that simple adjustments can be made to accommodate most car bodies very easily using a halfway decent 3D modeller. If any changes are required they will typically be of the order of 1-2mm.

The model also makes use of my *Parametric Footplate* model which can be found here:
https://www.thingiverse.com/thing:3150685

So if you don't like the footplates included in this package you can easily use the OpenSCAD script or the *Thingiverse Customiser* to generate something that meets your needs.

The Parts

Print off the bits. The filename includes the number of each item you will need.

Filename	No of Reqd
Railcar-BatteryBoxCapx2.stl	2
Railcar-BatteryBoxTopx1.stl	1
Railcar-BatteryBoxUndersidex1.stl	1
Railcar-BatteryPackbackx1.stl	1
Railcar-BatteryPackFrontx1.stl	1
Railcar-BogieBrakePrsx4.stl	4
Railcar-BogieInSidesx4.stl	4
Railcar-BogieSidesx4.stl	4
Railcar-BogieSpringsx4.stl	4
Railcar-BufferWebLx2.stl	2
Railcar-BufferWebRx2.stl	2
Railcar-Bufferx2.stl	2
Railcar-LongFootplatex2.stl	2
Railcar-Mainframe.stl	1
Railcar-MainSupportSpanx2.stl	2
Railcar-MotorCentreHingex2.stl	2
Railcar-MotorCrossBarx2.stl	2
Railcar-MotorDetailSmlLx4.stl	4
Railcar-MotorDetailSmlRx4.stl	4
Railcar-WheelArchDetailBackLx1.stl	1
Railcar-WheelArchDetailBackRx1.stl	1
Railcar-WheelArchDetailLx1.stl	1
Railcar-WheelArchDetailRx1.stl	1
Railcar-Wheelsx8.stl	8

Railcar Chassis Assembly
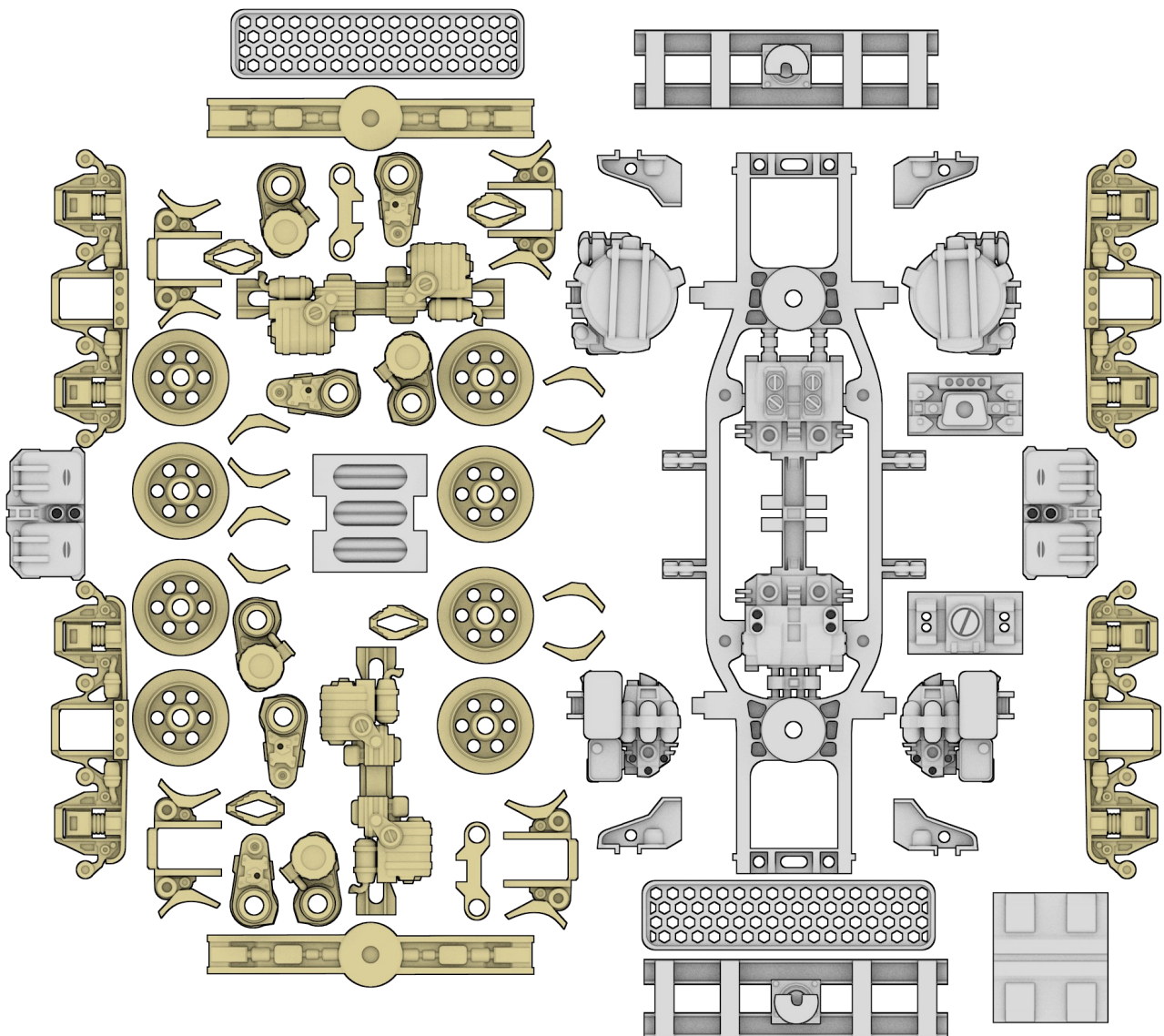
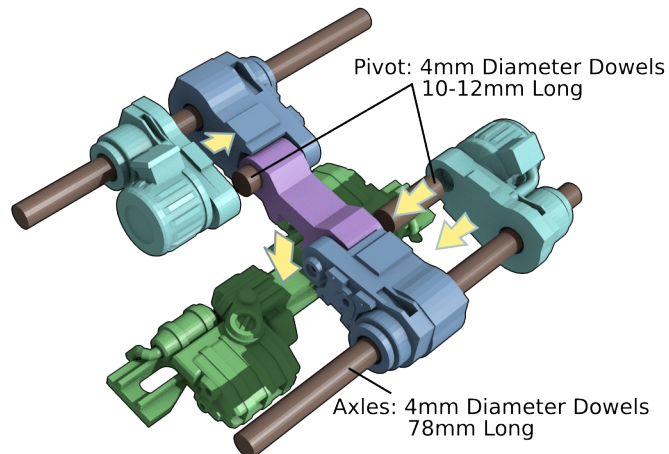*The 3D Printed Bits*

Extra things you will need;

- A 1:24 scale car body
- Some 4mm diameter dowel for axles and locater pins (or M4 threaded rod)
- M4 x 10mm dome head cap screws, washers, and nuts to secure the bogies to the frame (if you want them to move that is)
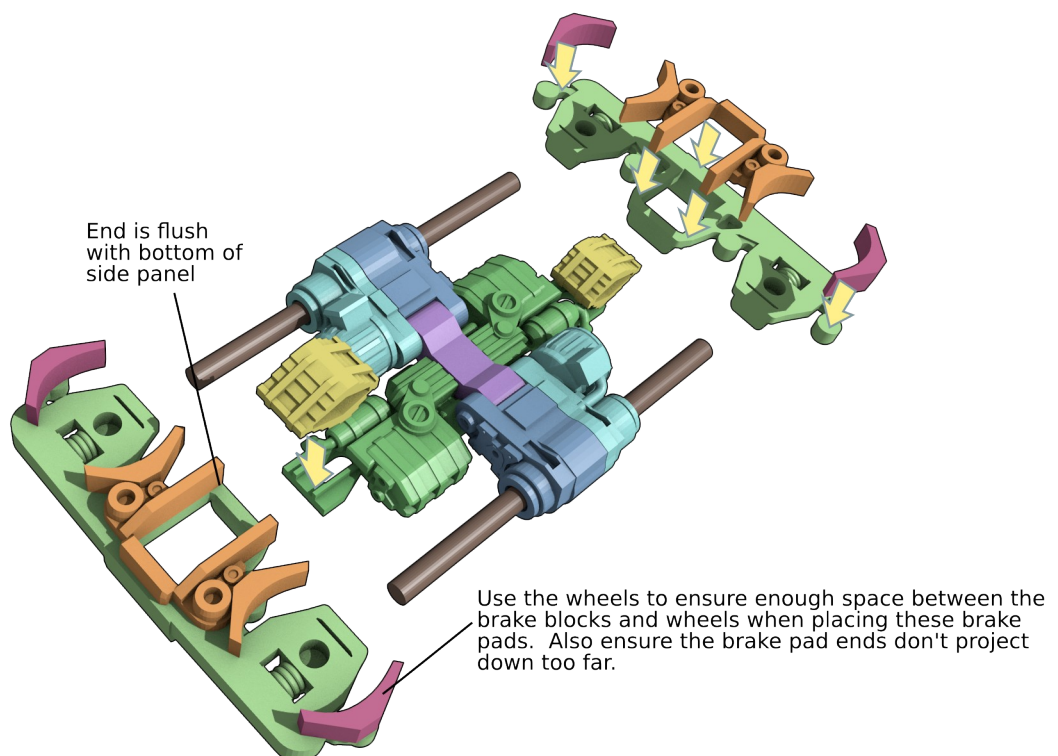- Some wire for pipes (7.5A insulated wire is about the right size)

Assembling the Bogies

The two bogies are exactly the same. As you assemble it be aware you will need to install a nut into the upper cross piece (*Railcar-MainSupportSpanx2.stl*) and do all painting before final assembly of the bogie.
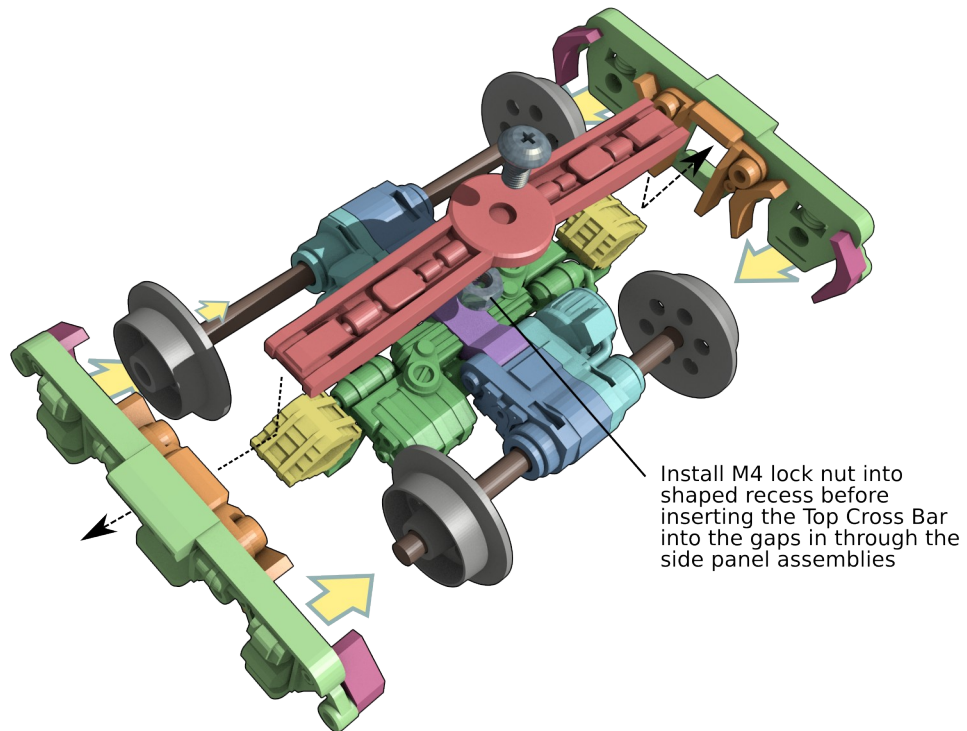
Step 1

Pivot: 4mm Diameter Dowels
10-12mm Long

Axles: 4mm Diameter Dowels
78mm Long

Step 2

End is flush
with bottom of
side panel

Use the wheels to ensure enough space between the brake blocks and wheels when placing these brake pads. Also ensure the brake pad ends don't project down too far.

Once this stage is completed it is worthwhile painting all parts of the bogie.

Step 3

Install M4 lock nut into
shaped recess before
inserting the Top Cross Bar
into the gaps in through the
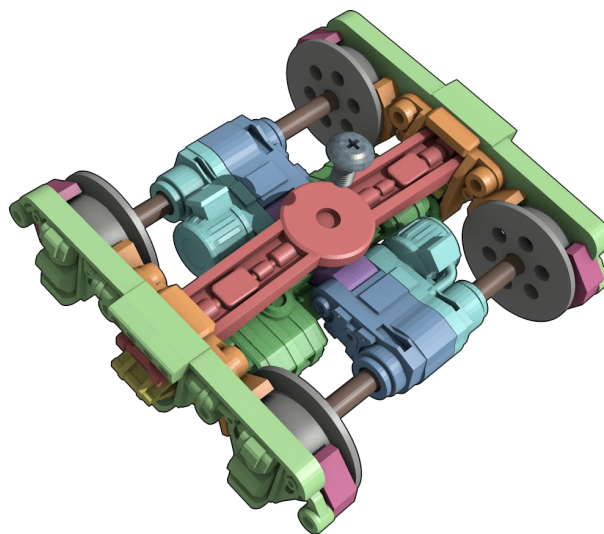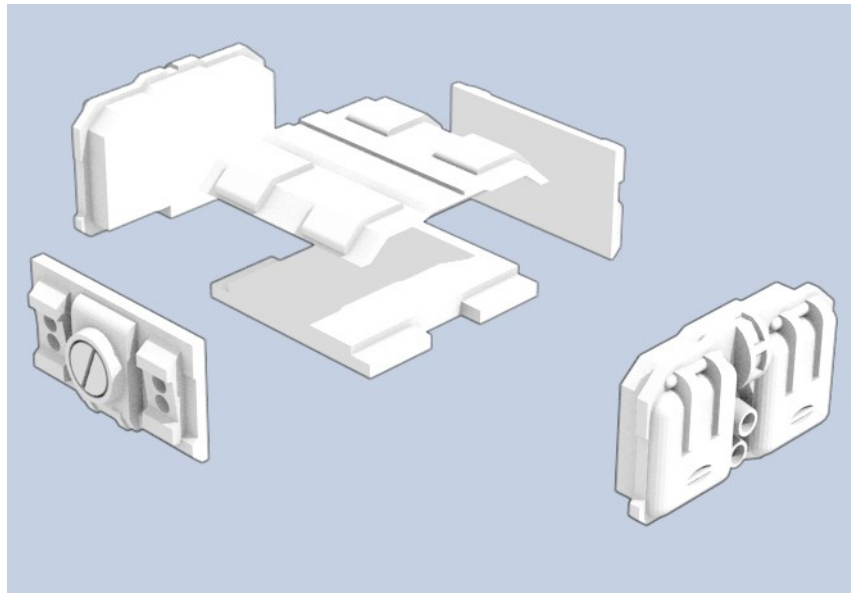side panel assemblies

Step 4

That completes the two bogies.

The Main Frame

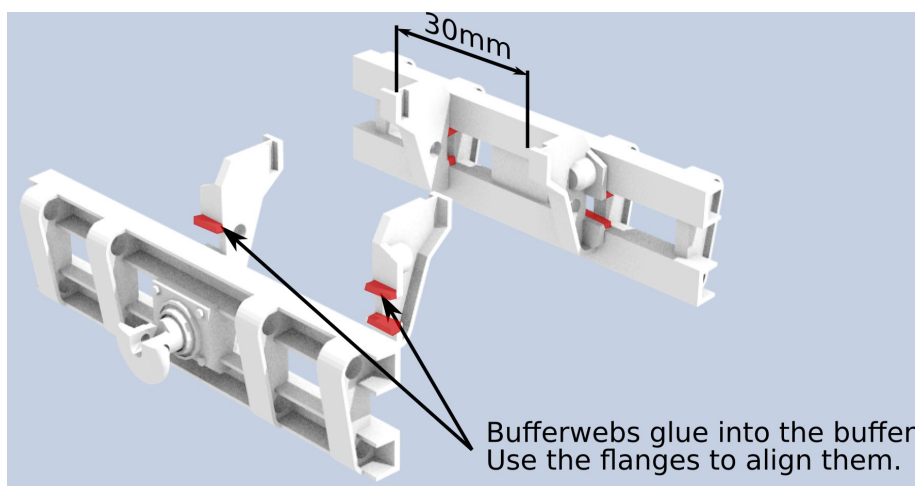## Step 1

Assembly the box thing that goes under the frame.

Step 2

The buffer webs can be located with the small flanges as shown below. The space between the webs is about 30mm, but check this against the width of the Main Underframe's ends.

Step 3

Glue the box under the frame onto the pads shown. The side with the four holes in it faces towards the front of the frame. You can tell which end is the frame's front by looking at the detailed bits near the middle of the frame. The detailed bit with the four holes (that strangely look similar to the four holes on the front of the box) is the front end.

The buffer assemblies can glued onto main frame using the locater lugs to position them.

Glue the footplates in place.
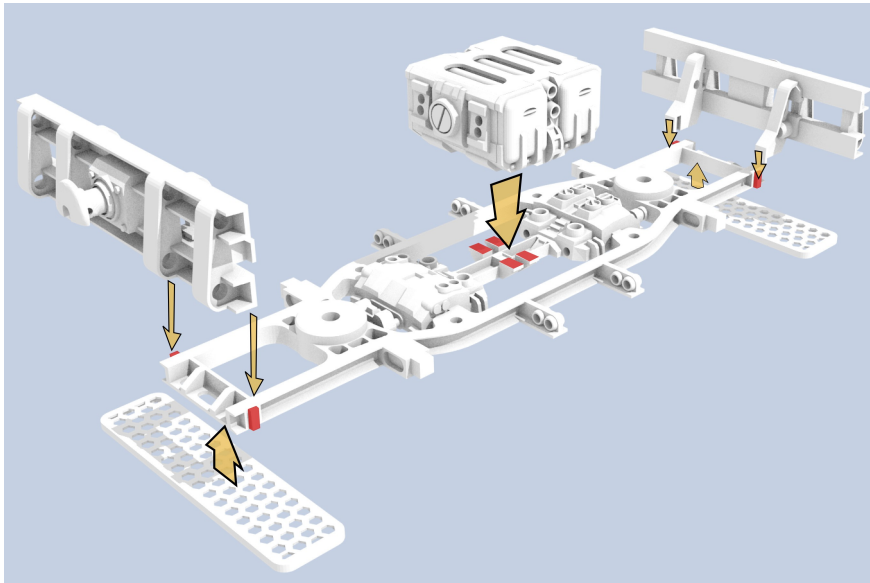
Step 4

Depending on the clearance around the vehicle body's wheel arches you can glue the front and back wheel arch details in place on their respective lugs. Be aware of which end of the frame is the front. The big dome-like detail bits go to the back. You may need to install these bits at a later stage once the car body is in place.
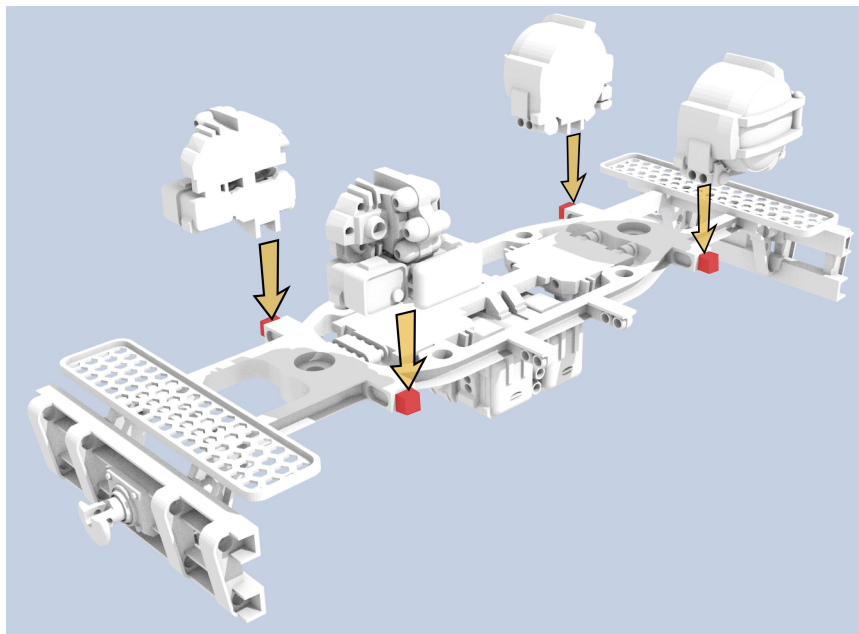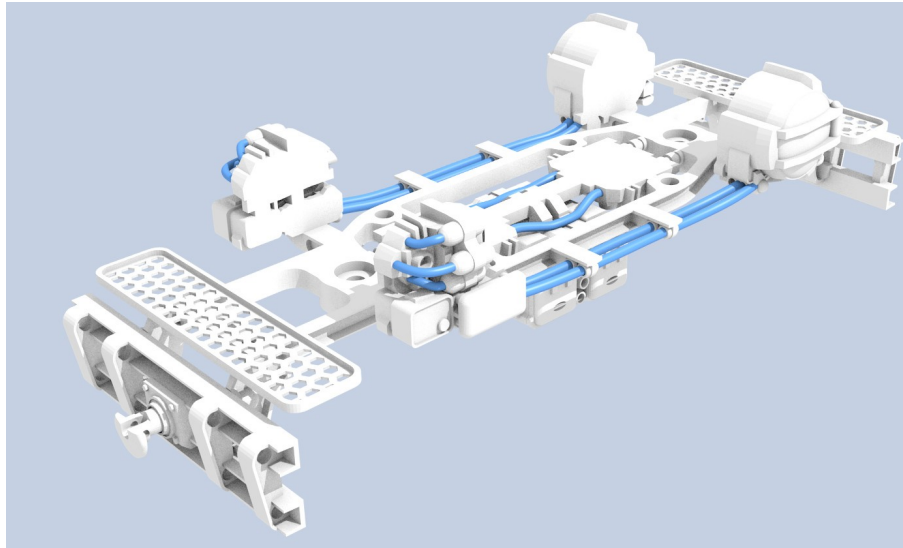
Step 5

Install the wires. There are also four short wires underneath joining the underside box to the main frame using those small holes referred to in Step 3. If you were unable to install the wheel arch detail bits in Step 4, put them on the wires running along the side of the frame, but leave them hanging until the car body is installed.

Step 6

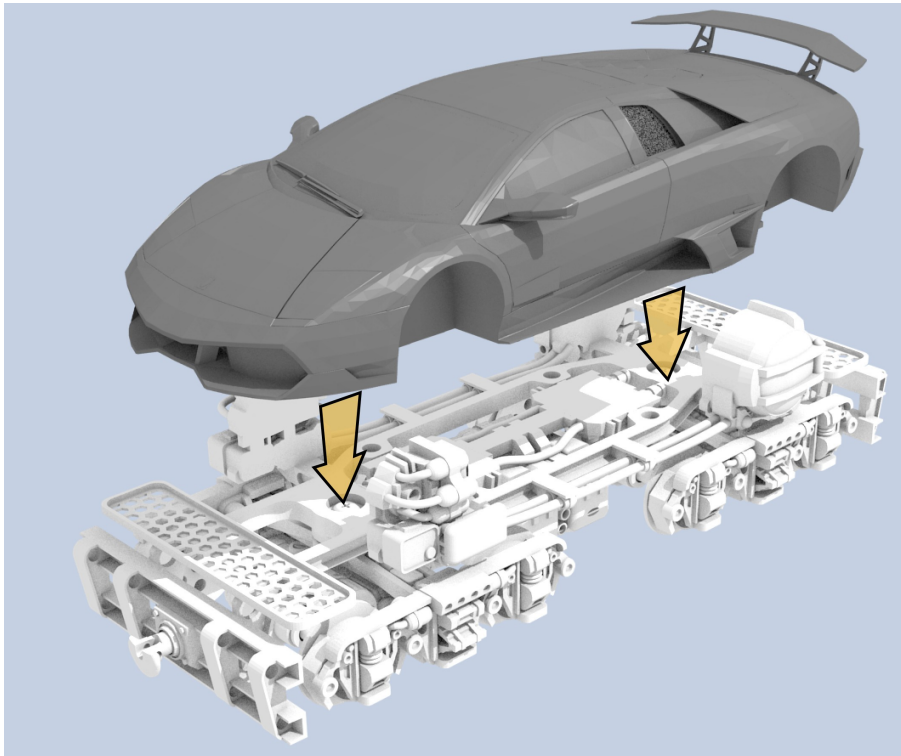With M4 screws (10mm long), screw through into the nuts embedded in the top beam of the bogies.
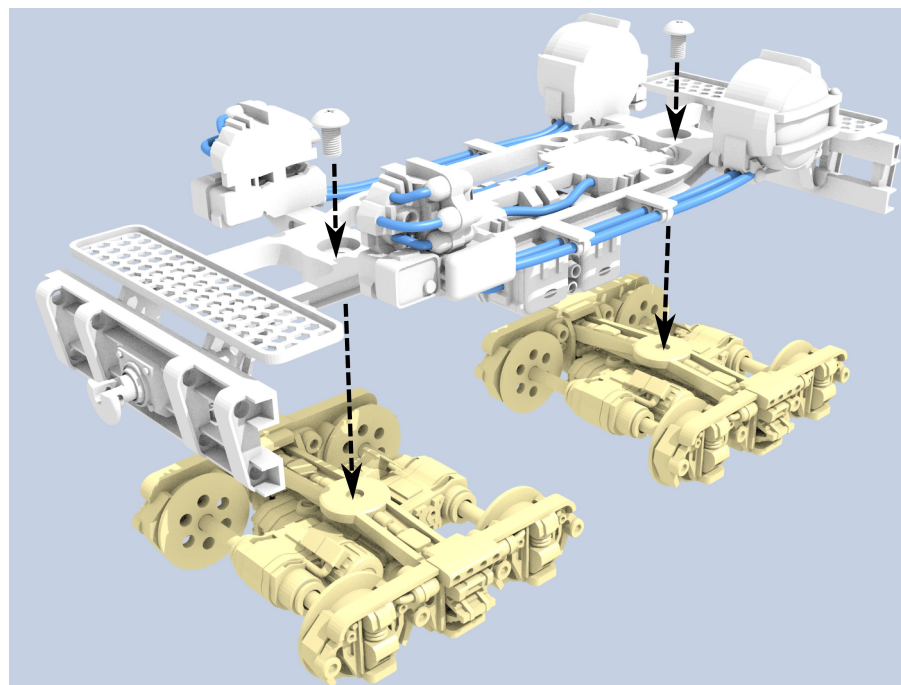
Step 7

Install the vehicle body (and wheel arch detail bits if you have had to wait).

And that's it. Done!

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