Build Guide - 3D Sets Mini 4x4: Rescuer

3D printed radio controlled
4WD 1/16 scale model.

www.3dsets.com
3D Sets Facebook

Version 1.3.0

Rescuer – version 1.3.0 technical specs.

- Dimensions: 29.5 cm length, 16.5 cm width (incl. mirrors), 16.5 cm height
- Model weights roughly 1 kg (including battery)
- Dual motors – independent axle drive
- Permanent all wheel drive, differentials are in locked state
- Optional rear axle steering
- Remote controlled steering and speed control
- Powered by common AA batteries (tested with IKEA® Ladda rechargeable AA batteries)
- Wheels are compatible with worldwide available LEGO® tires.
- Suspension with 3d printed springs for good off-road capabilities. Small LEGO® tires used as damper.
- Doors and Roof Hatch can be manually opened
- Foldable Roof Rack
- Ready for color printing (by changing filament colors during print)
- No glue used; all parts holds together by metric M3 screws. No tiny M2 used.
- Doors hinges uses printing filament as axis.
- Fast build suitable for kids with help of adults.
- No soldering required (if proper non-printable parts are obtained)
- Ready for Radio Control (need to be purchased independently)

Rescuer – version 1.3.0 changelog

“3D Sets Mini 4x4: Rescuer” v1.3.0, release date: November 23, 2023:

- Added print plates and g-codes for Prusa MK4

“3D Sets Mini 4x4: Rescuer” v1.2.0, release date: July 12, 2023:

- Customizable parts to create your own graphic design or text on the bodywork, utilizing features of the PrusaSlicer 2.6
- .stl parts for “Tires” and “Dampening Ring” – replacement for non-printable LEGO® tires
- .3mf for “Tires” and “Dampening Ring” with “Fiberlogy MattFlex40D” flexible filament print settings
- “Fuel Cans.stl” – new alternative part replacing “Fire Extinguishers.stl”

“3D Sets Mini 4x4: Rescuer” v1.1.0, release date: March 31, 2023:

- Changes on part “Rear Body.STL” – compatible with rear steering
- Stronger Steering Bar
- Changes on parts “Servo Rod.STL” and “Servo Steering Arm.STL”
- Changes on parts “Spring Front.STL” and “Spring Rear.STL”
- Fix on part "Axle Rear Housing - right" in print plate - "Print 26 - Rear Axle" (MINI, MK3S, g-code, 3D printer 20x20)

Before you start

- Get ready all tools.
- Buy necessary parts that cannot be printed (screws, bearings, motor etc.), these parts are listed on next page.
- Make sure that your printer is calibrated well – print our “calibration part” to ensure that you can fit bearings on shafts properly! Calibration part is located on “Print 0 - Calibration”.
- Use higher printing temperatures – use about 210-215°C for PLA to have firm layer adhesion!

- Build guide is divided on steps and subassemblies. Subassembly is a sequence, where you will make some independent sub-part like gearbox, axles etc. Later you will install subassembly in the car.

It is not mandatory to use soldering equipment to make all electronics working. You can buy “faston” connectors which will replace soldering of wires.

Are you new to the Radio Controlled models?

Don't worry, Radio Controlled (RC) models are not as complicated as they can look! However, it's a good to know some basics before you will start buying parts.
Most mechanical parts in our products will be 3d printed on your own printer, so we will focus here on RC electronics.

On-line beginners guides:

- Steemit.com – a basic introduction to RC car models
- Instructables.com – another beginners guide, general (not focused on car models)
- Youtube – a nice video showing RC electronic basics

If you have any questions regarding our models, feel free to ask us (or other 3dsets builders) on our Facebook discussion group, available here: Facebook – 3D Sets

Rescuer – version 1.2.0: What do you need?

- **LINKS for PARTS PURCHASE! ➡ list of required non-printed parts is here (continuously updated): click for non-printed parts spreadsheet**

- Print Filament: To print this model you will need around 1000 g of print filament in total. We print our models from PLA material. You can use variable color for chassis and body. Tested and recommended filament: Fillamentum PLA Extrafill or Prusament PLA.
- The recommended drive is a DC Gearbox Motor Dual Shaft 200RPM
- Steering servo in Micro size (22,6x21,8x11,4mm): 1 piece for front steering only, 2 pcs for both (front and rear) axle steering
- If your transmitter doesn't support "crawler mode" or advanced channel mixing, you need to buy "Reverser Servo Cable" and "Servo Y-cable"
- Speed controller (ESC) max size 40x30x25mm
- Ball Bearing 10x15x4 mm - 6700ZZ: 4 pcs.
- Shock Absorbers - LEGO tire 14x4mm (Item No: 3139): 2 pcs
- Tires – wheels are compatible with worldwide available LEGO tires 4 pcs. (Item No: 45982)
    - Wheels – **maximum outer diameter 84 mm, maximum width 40 mm**
- AA battery with battery mount - max for 8pcs. or 7.2V - 11.1 battery with dimensions max 115x57x32mm
- Electric connectors: 2 pairs (battery connectors, motor <–> ESC connectors)
- Twin cable & soldering equipment; Soldering not necessary if you buy motors with pre-installed cables and "Faston" connectors.
- Clear Binding Covers, or any transparent foil up to 0,5 mm thick – material for "Glass".
- Grease and Thread Locker for securing fasteners on moving parts

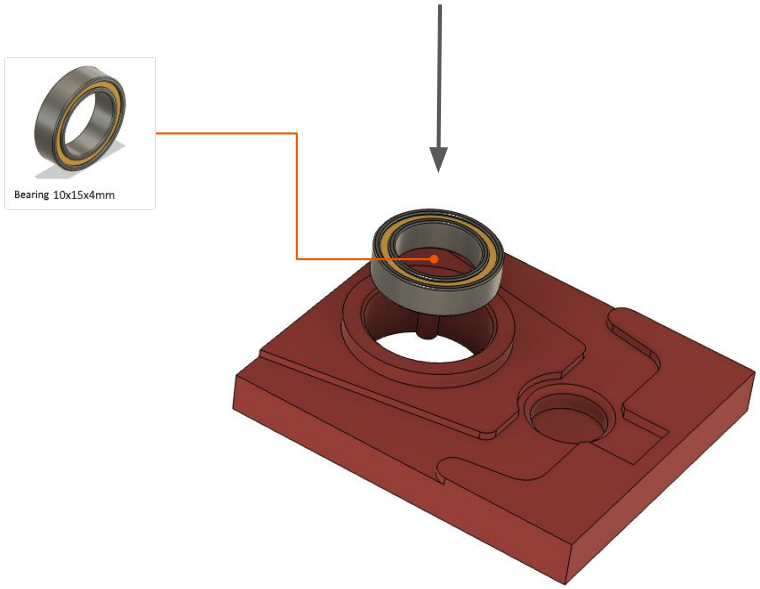
Rescuer – version 1.2.0: Required hardware

Screws and nuts (in metric size):

- M3x6: 41 pcs.
- M3x8: 4 pcs.
- M3x10: 10 pcs.
- M3x12: 13 pcs
- M3x16: 14 pcs.
- M3x20: 6 pcs.
- M3 nuts: 8 pcs.

Check 3d printer calibration!

Please at first test whether the bearing can be inserted into the calibration part. If you have problems or the bearing fits too loose, please make sure that the printer is properly calibrated. Dimensions of the printed parts should match dimensions of the 3d model.



Rescuer – Main Body

In this procedure you will assemble the front Main Body of the car.

Required print plates:

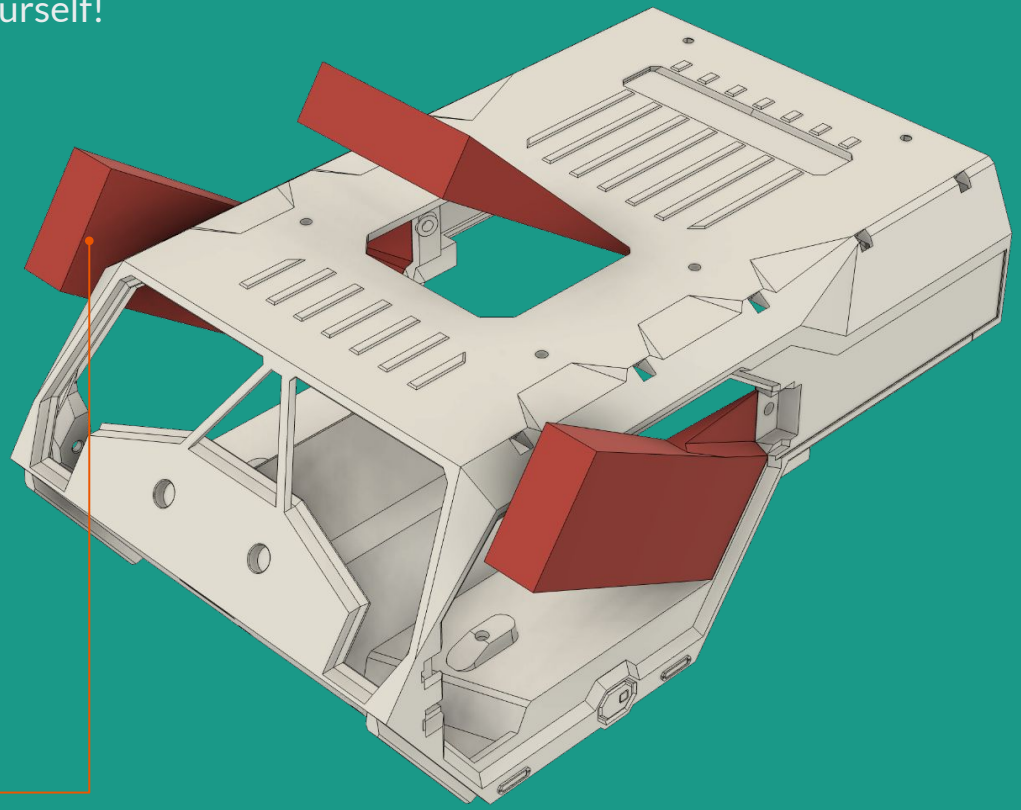
- "Print 1 - Main Body"
- "Print 2 - Side Panel + Door Side Front Symbol"
- "Print 3 - Hinge + Light Front Outer"

Non-printed parts:

- Screw M3x6: 5 pcs.

Postprocessing – removing supports

Before you start building, carefully remove printing supports (marked red) integrated to specific parts rendered below. You can use pliers and sharp knife to make the procedure easier. Be very careful as you can harm yourself!

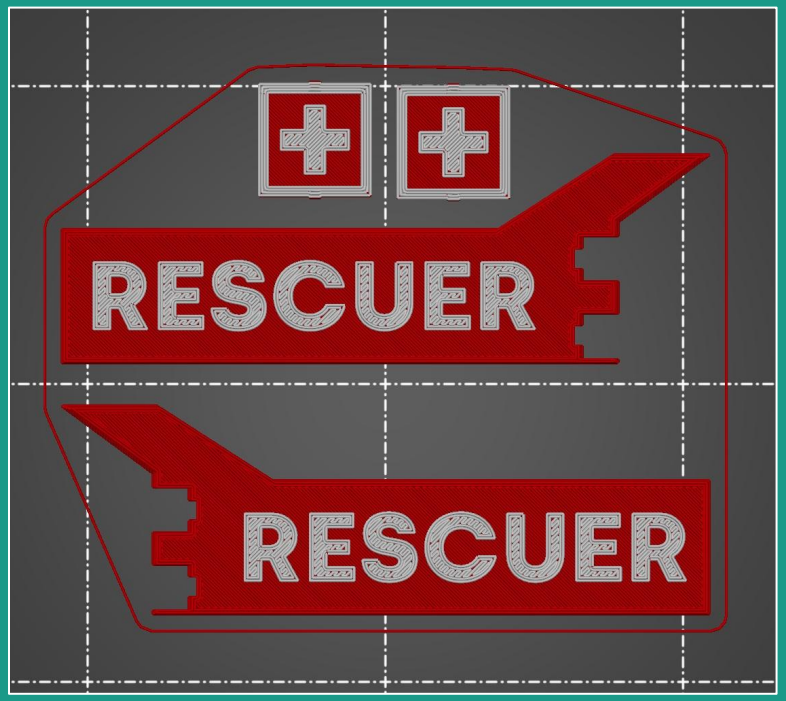


supports marked in red has to be removed

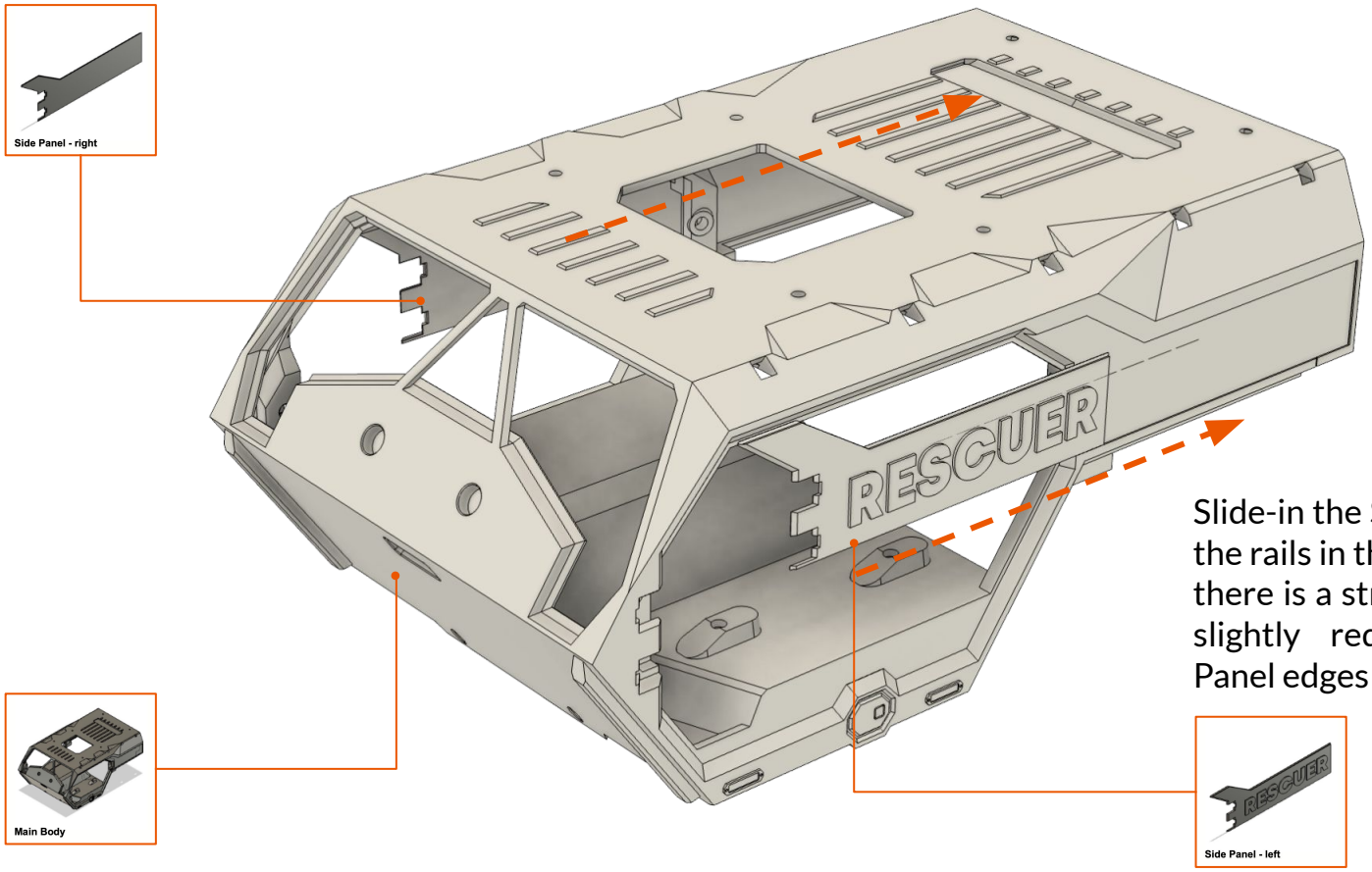
Side Panels

You can print Side Panels with filament changes to achieve color results. Please, setup filament changes in layer heights described below (setup is for layer height 0,15mm):

- Change filament at Layer 7 - height 1,1mm
- Layer color before change: red
- Layer color after change: white

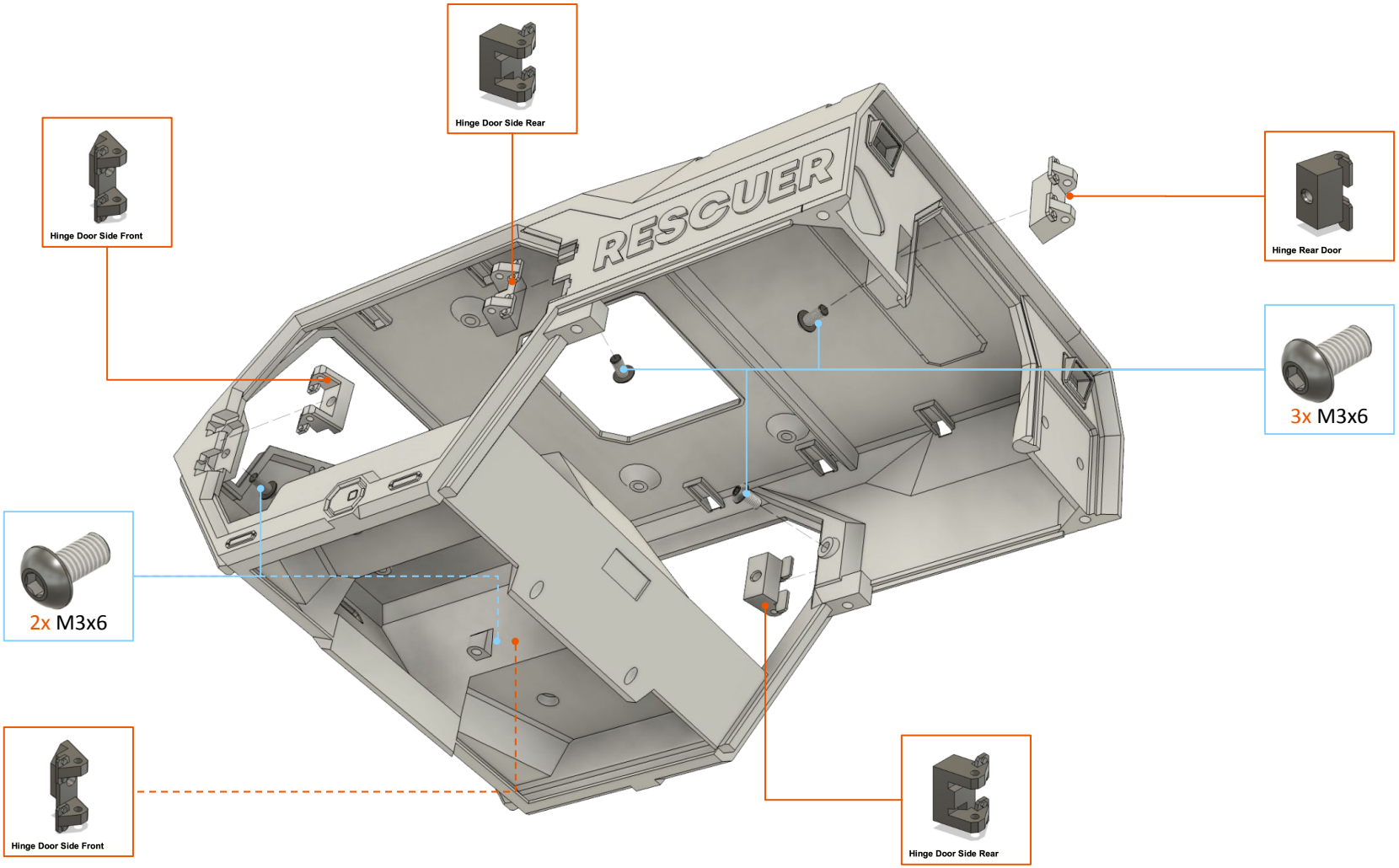


Main Body – Side Panels installation



Slide-in the Side Panels into the rails in the Main Body. If there is a strong resistance, slightly reduce the Side Panel edges by a knife.

Main Body – Door Hinges installation



Rescuer – Roof Frame & Roof Rack

In this procedure you will assemble the roof frame and roof rack of the car.

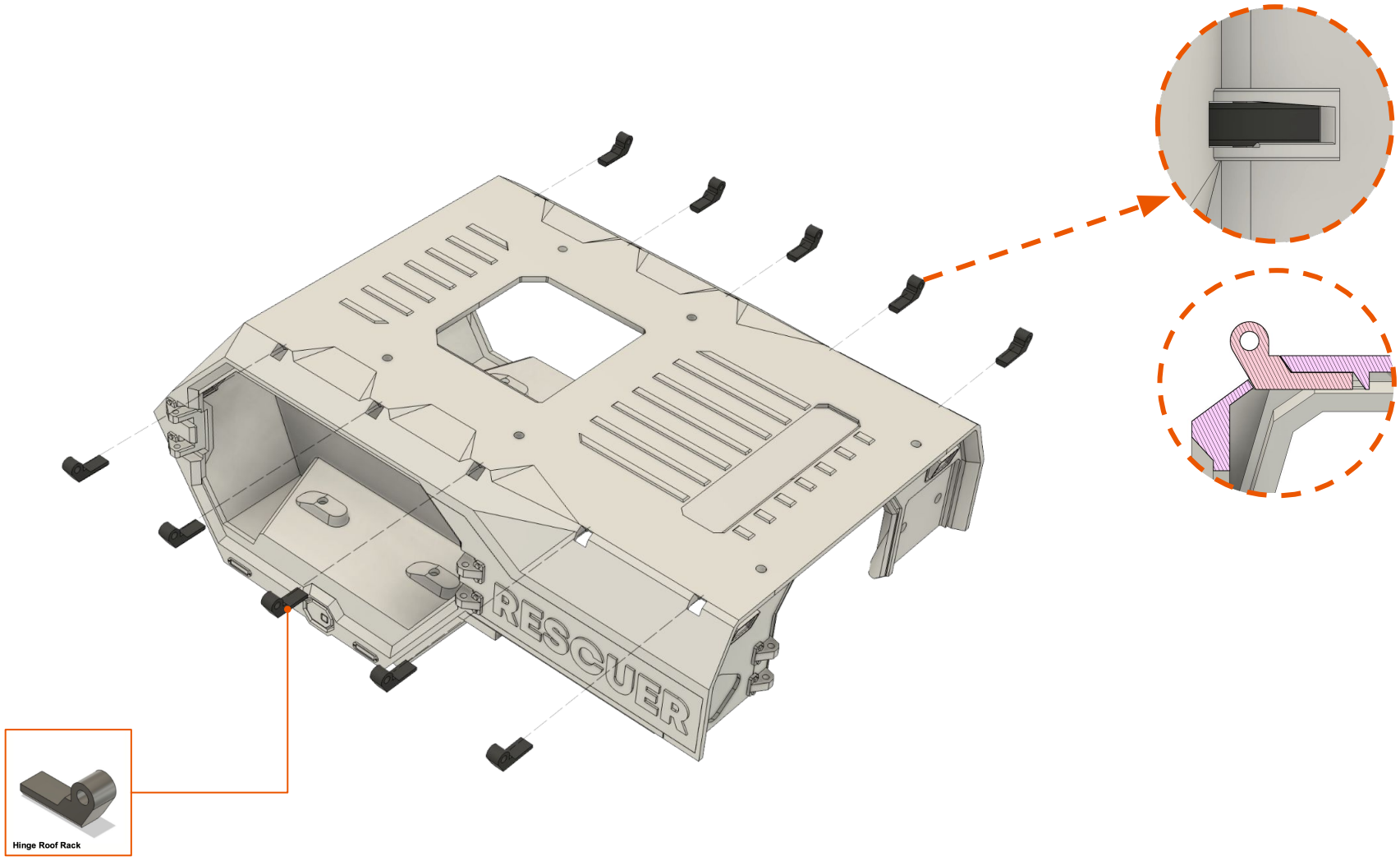
Required print plates:

- "Print 4 - Roof Reinforcement + Front Body Top + Details"
- "Print 5 - Roof Grill + Front Grill + Light Front Inner + Exhaust"
- "Print 6 - Rail + Front Body Top Grill + Roof Hatch Handle"

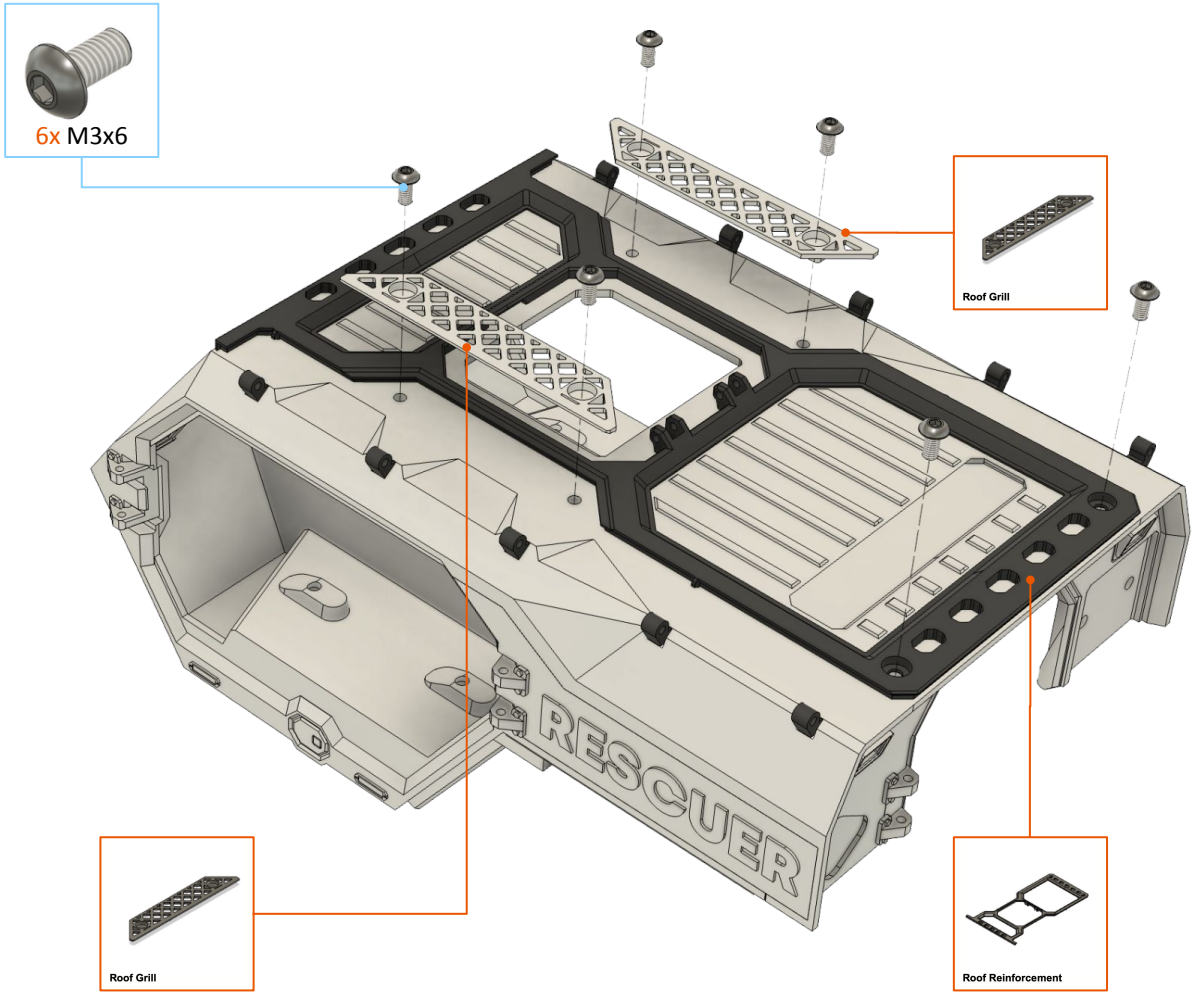
Non-printed parts:

- Screw M3x6: 6 pcs.

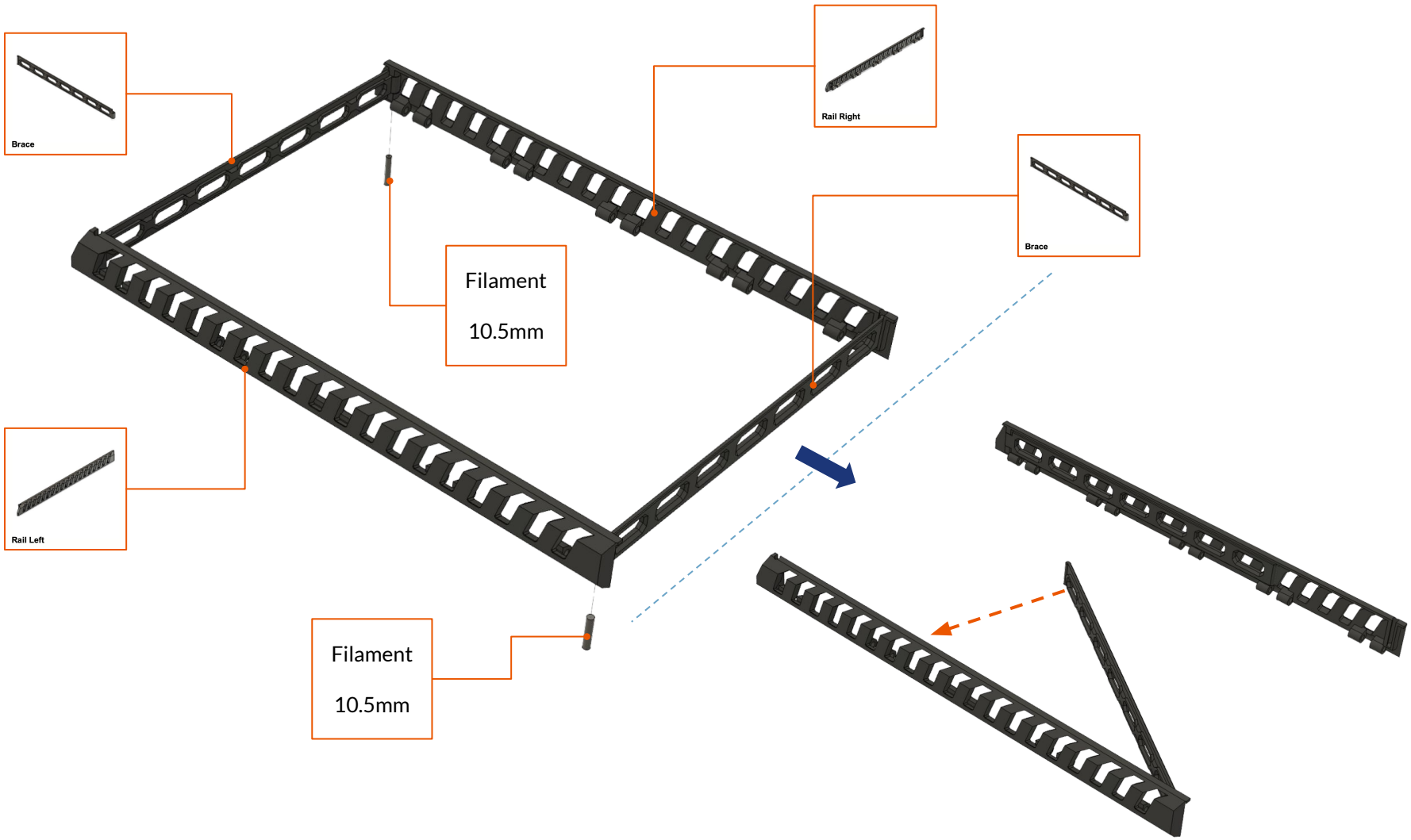
Roof Rack Hinges installation



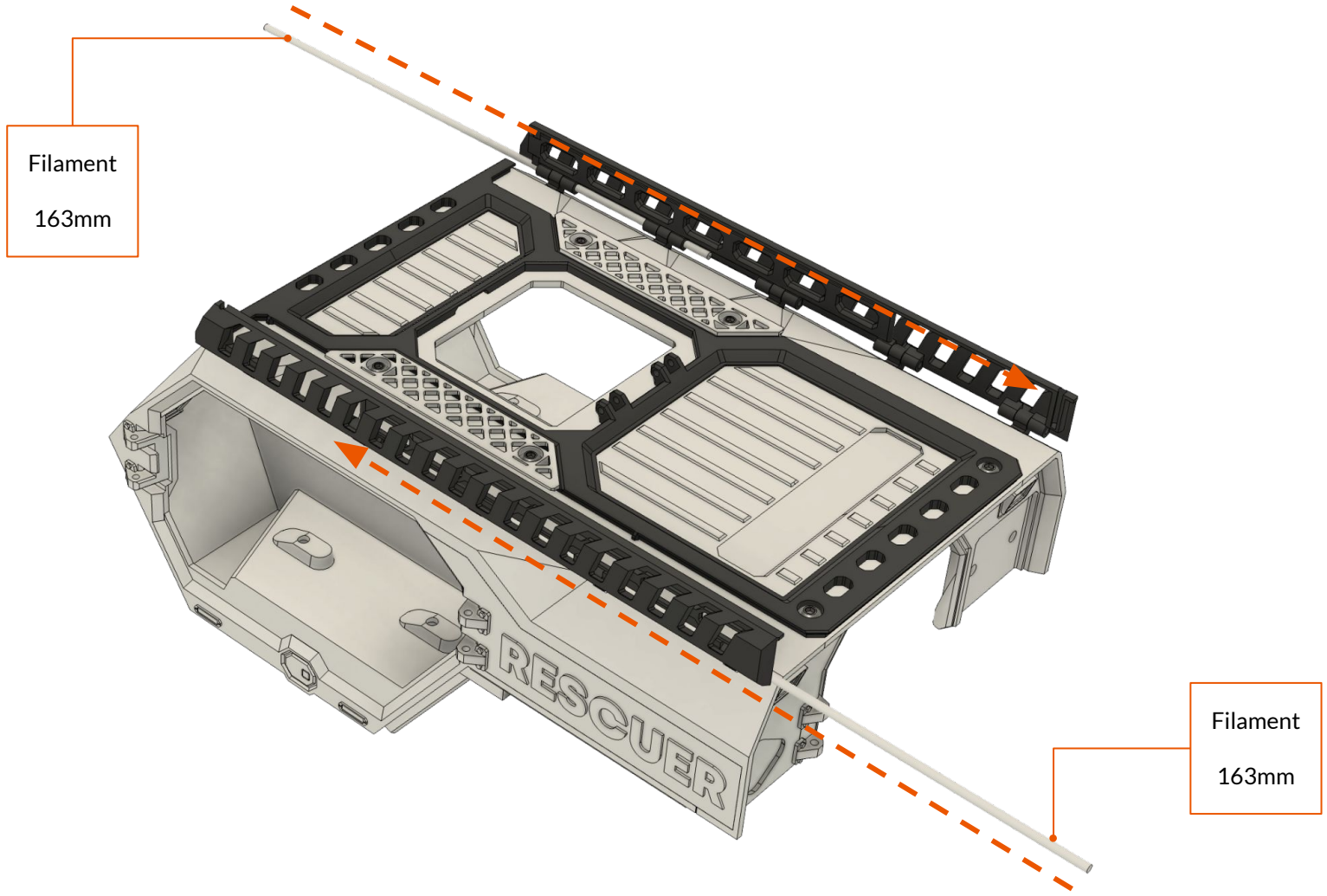
Roof Frame installation



Roof Rack assembling



Roof Rack installation



Rescuer – Body Rear Details

In this procedure you will assemble the rear body details of the car and Interior.

Required print plates:

- "Print 7 - Light Rear Top"
- "Print 8 - Logo Rear Wall"
- "Print 9A - Fire Extinguishers" or “Print 9B - Fuel Cans”

Non-printed parts:

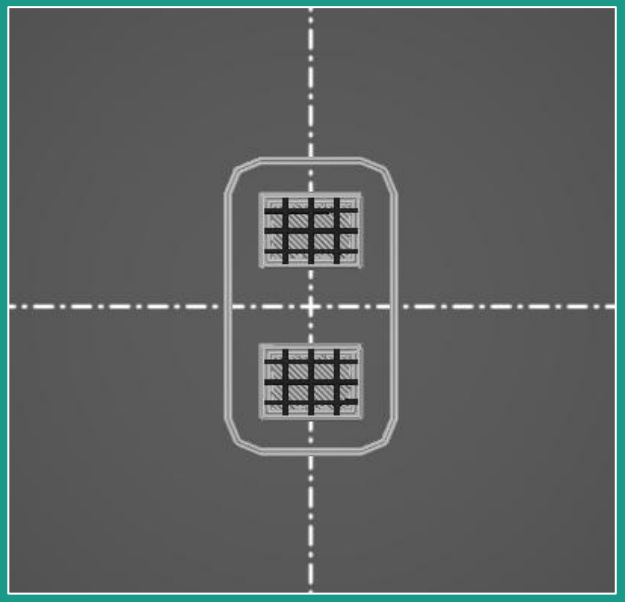
- Screw M3x6: 2 pcs.

Light Rear Top & Logo

You can print Light Rear Top and Logo Rear Wall with filament changes to achieve color results. Please, setup filament changes in layer heights described below (setup is for layer height 0,15mm):

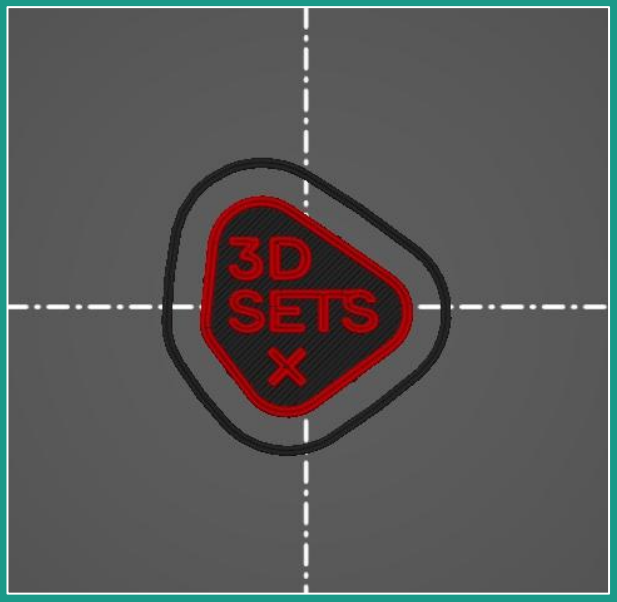
Turn Signal Front Glass:

- Change filament at Layer 21 - height 3,2mm
- Layer color before change: transparent
- Layer color after change: black



Logo Rear Wall

- Change filament at Layer 8 - height 1,25mm
- Layer color before change: black
- Layer color after change: red

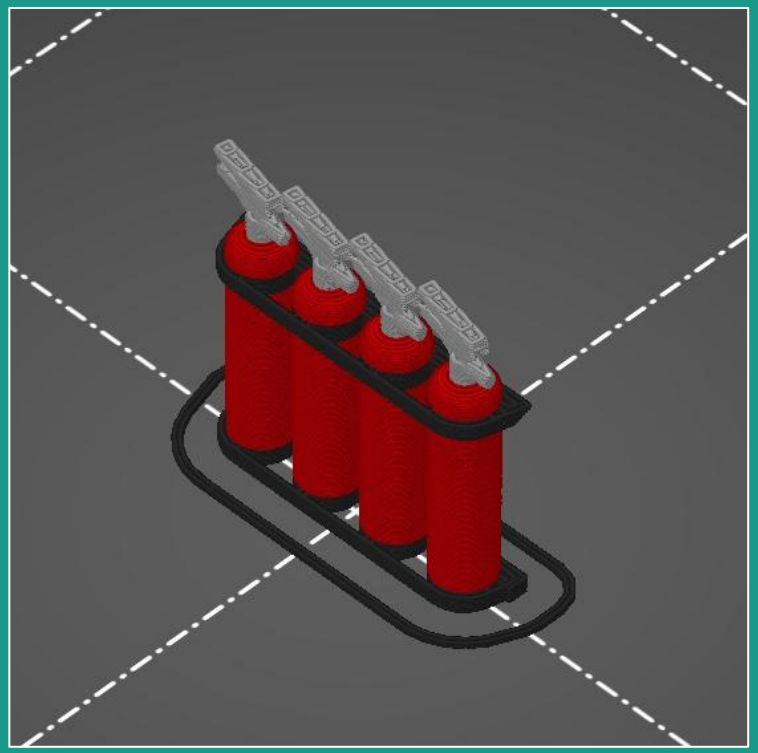


Fire Extinguishers

You can print Fire Extinguisher with filament changes to achieve color results. Please, setup filament changes in layer heights described below (setup is for layer height 0,15mm):

- Change filament at:
- Layer 11 - height 1,7mm
- Layer 103 - height 15,5mm
- Layer 113 - height 17mm
- Layer 125 - height 18,8mm

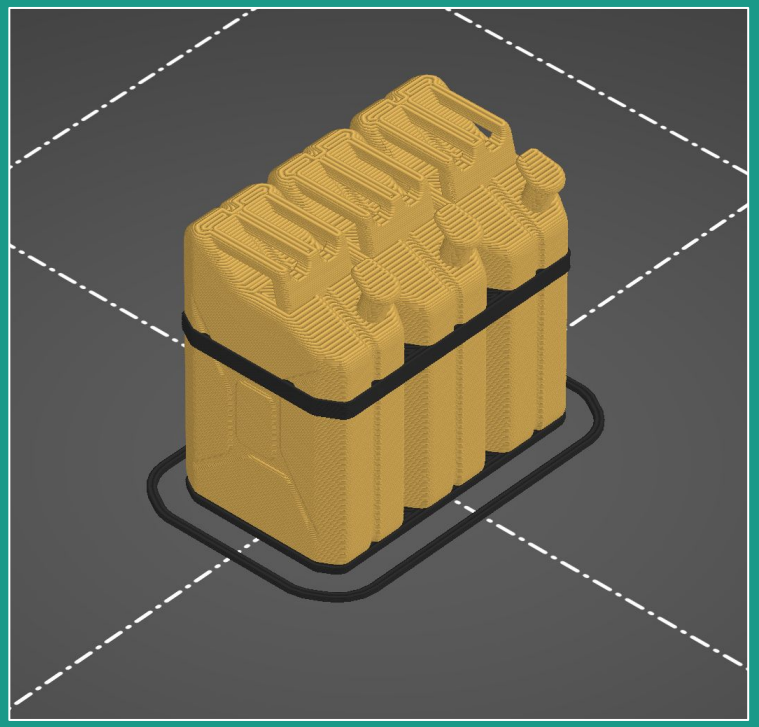
- starting color: black
- 1st color change: red
- 2nd color change: black
- 3rd color change: red
- 4th color change: silver



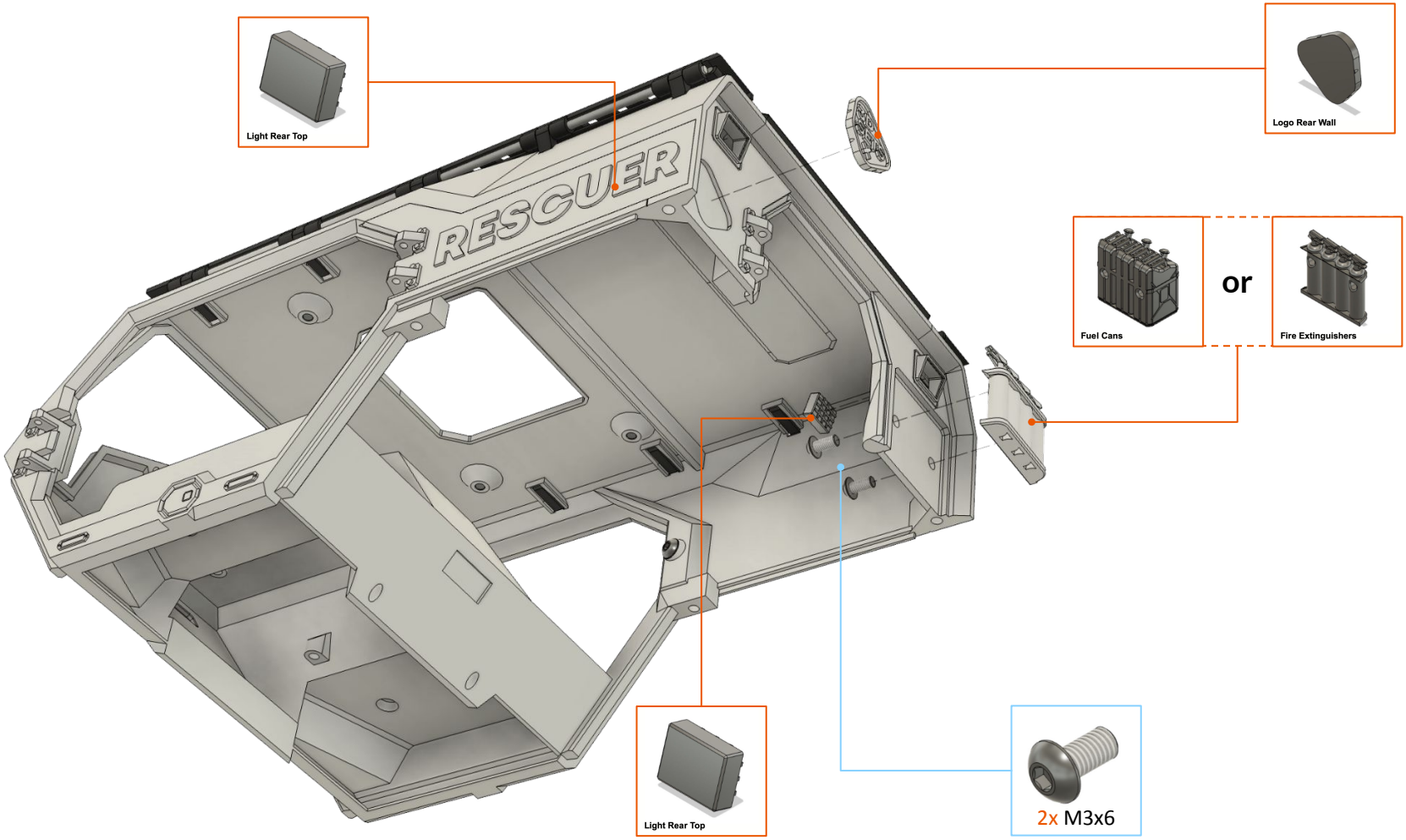
Fuel Cans

You can print Fuel Cans with filament changes to achieve color results. Please, setup filament changes in layer heights described below (setup is for layer height 0,15mm):

- Change filament at:
- Layer 8 - height 1,25mm
- Layer 101 - height 15,2mm
- Layer 111 - height 16,7mm



Body Rear Details installation



Rescuer – Roof Details

In this procedure you will assemble the roof details of the car and Interior.

Required print plates:

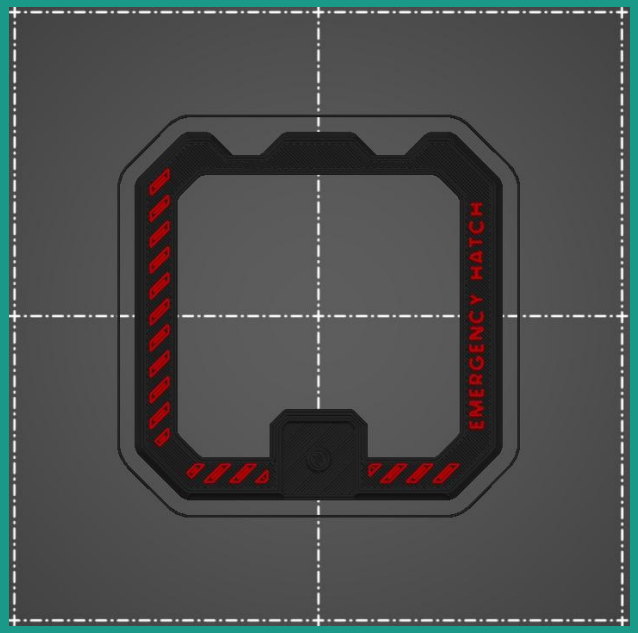
- "Print 10 - Roof Hatch Outer"
- "Print 11 - Roof Hatch Symbol"
- "Print 12 - Roof Panel"

Roof Hatch Outer & Roof Hatch Symbol

You can print Roof Hatch Outer and Roof Hatch Symbol with filament changes to achieve color results. Please, setup filament changes in layer heights described below (setup is for layer height 0,15mm):

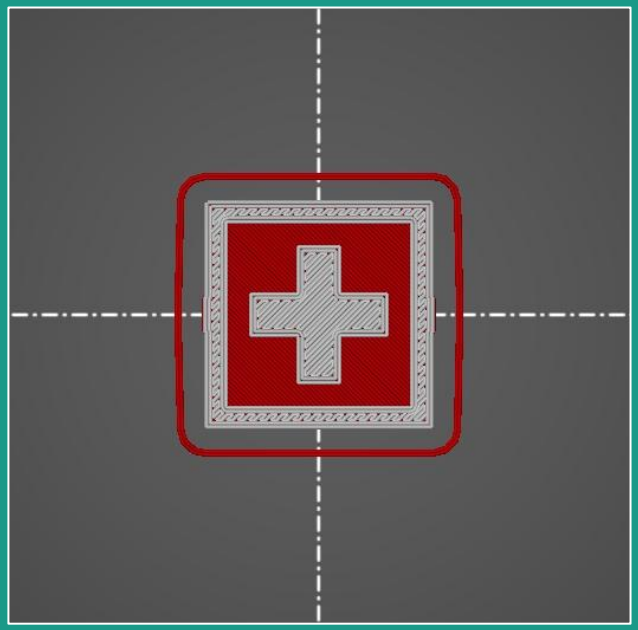
Roof Hatch Outer

- Change filament at Layer 17 - height 2,6mm
- Layer color before change: black
- Layer color after change: red



Roof Hatch Symbol

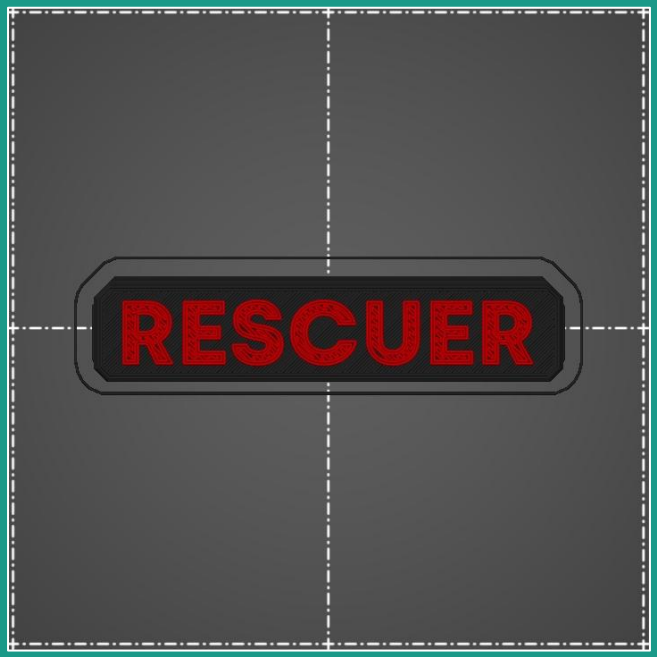
- Change filament at Layer 5 - height 0,8mm
- Layer color before change: red
- Layer color after change: white



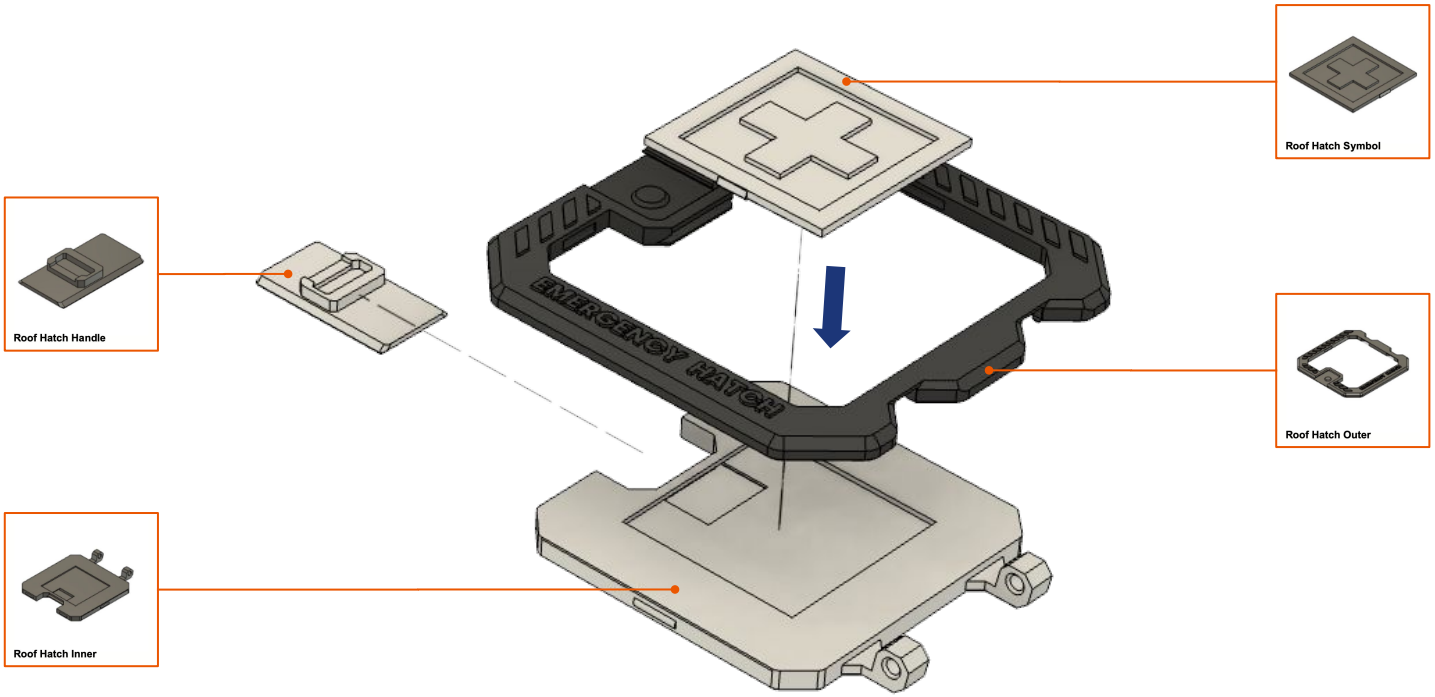
Roof Panel

You can print Door Roof Outer and Door Roof Symbol with filament changes to achieve color results. Please, setup filament changes in layer heights described below (setup is for layer height 0,15mm):

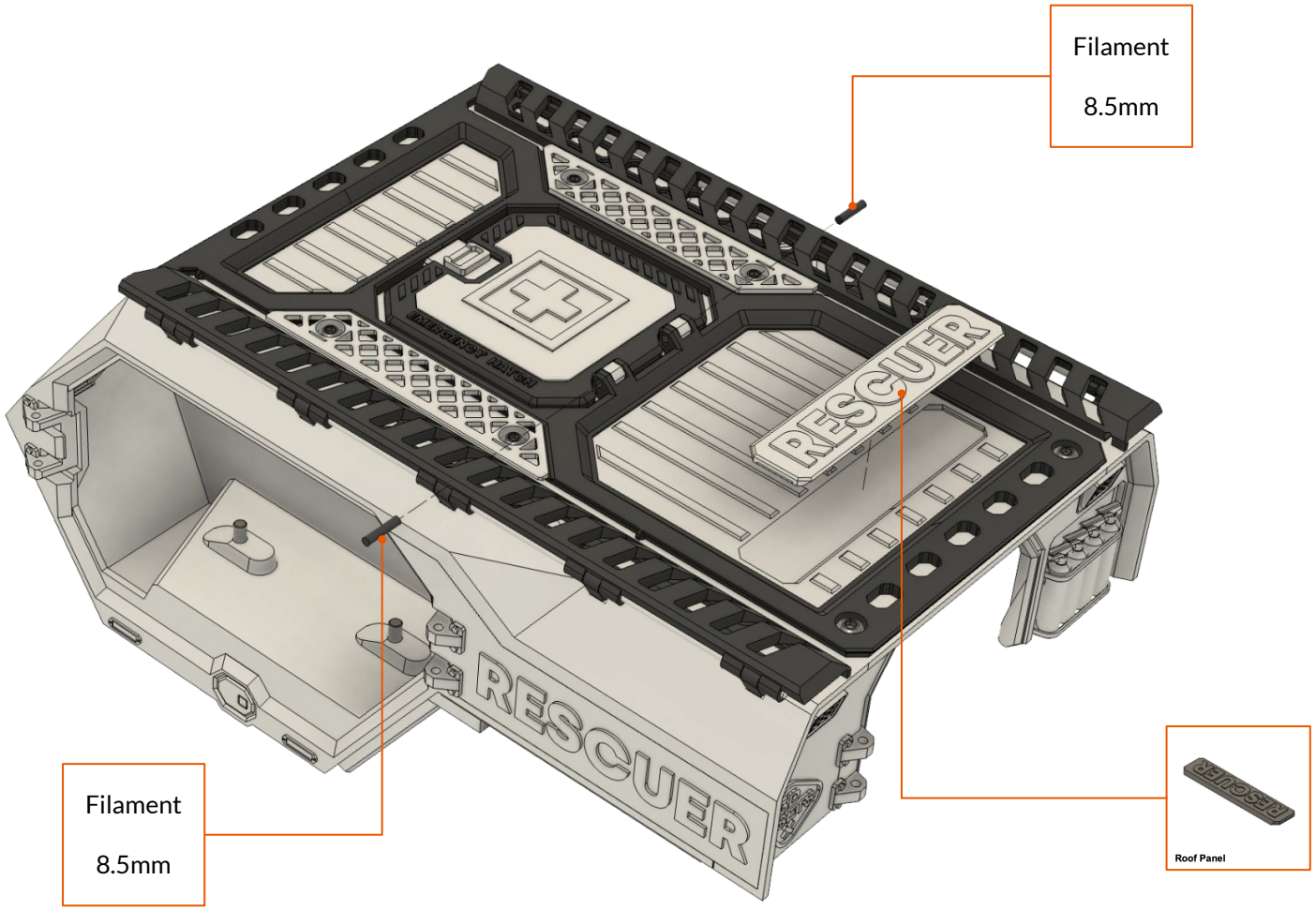
- Change filament at Layer 12 - height 1,85mm
- Layer color before change: red
- Layer color after change: white



Roof Hatch


Roof Hatch Symbol
Roof Hatch Handle
EMERGENCY HATCH
Roof Hatch Outer
Roof Hatch Inner

Roof Rack installation



Rescuer – Dashboard & Front Glass

In this procedure you will assemble the dashboard and front glass of the car and Interior.

Required print plates:

- "Print 13 - Dashboard + Front Glass"

Non-printed parts:

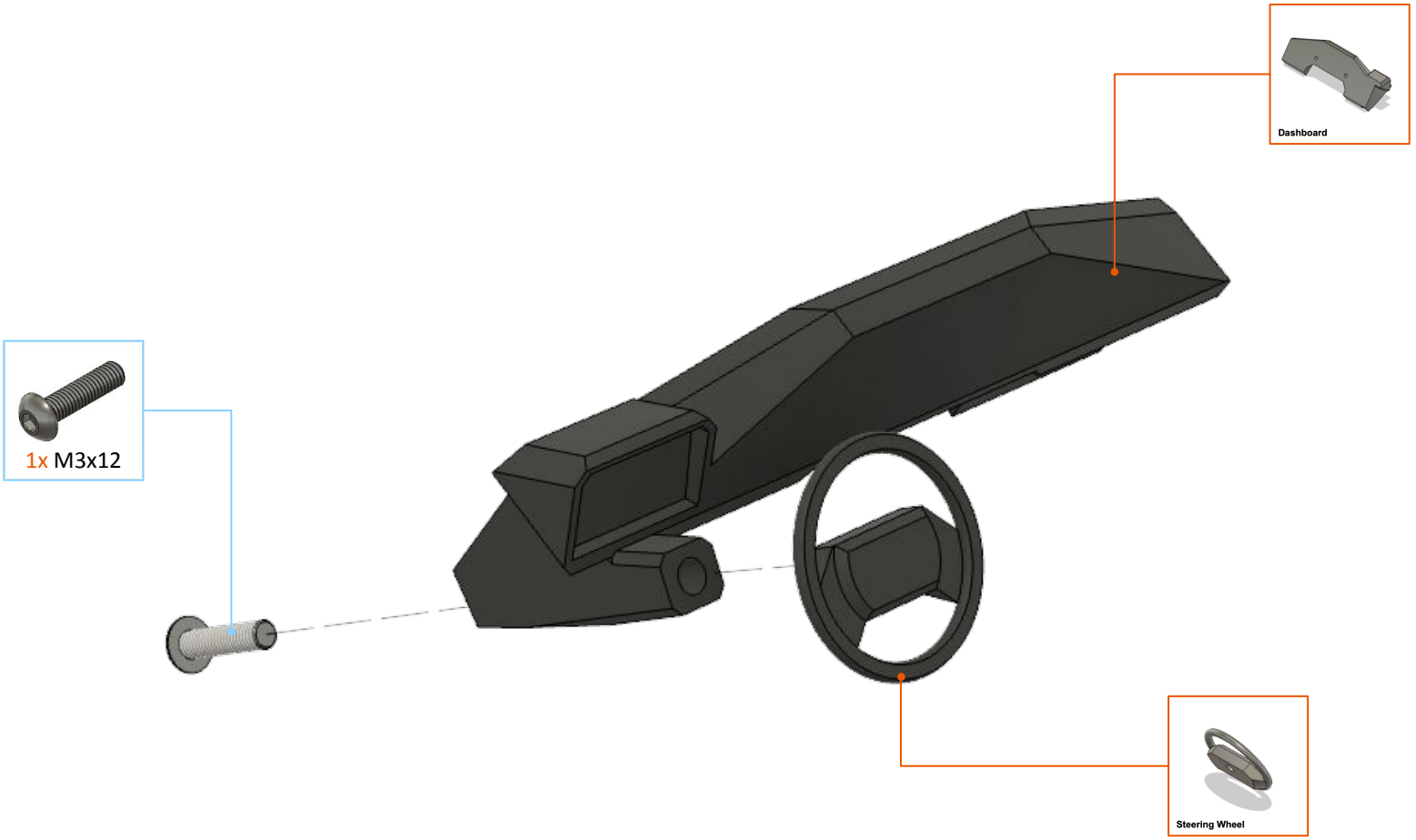
- Screw M3x6: 2 pcs.
- Screw M3x12: 1 pcs.

Glass

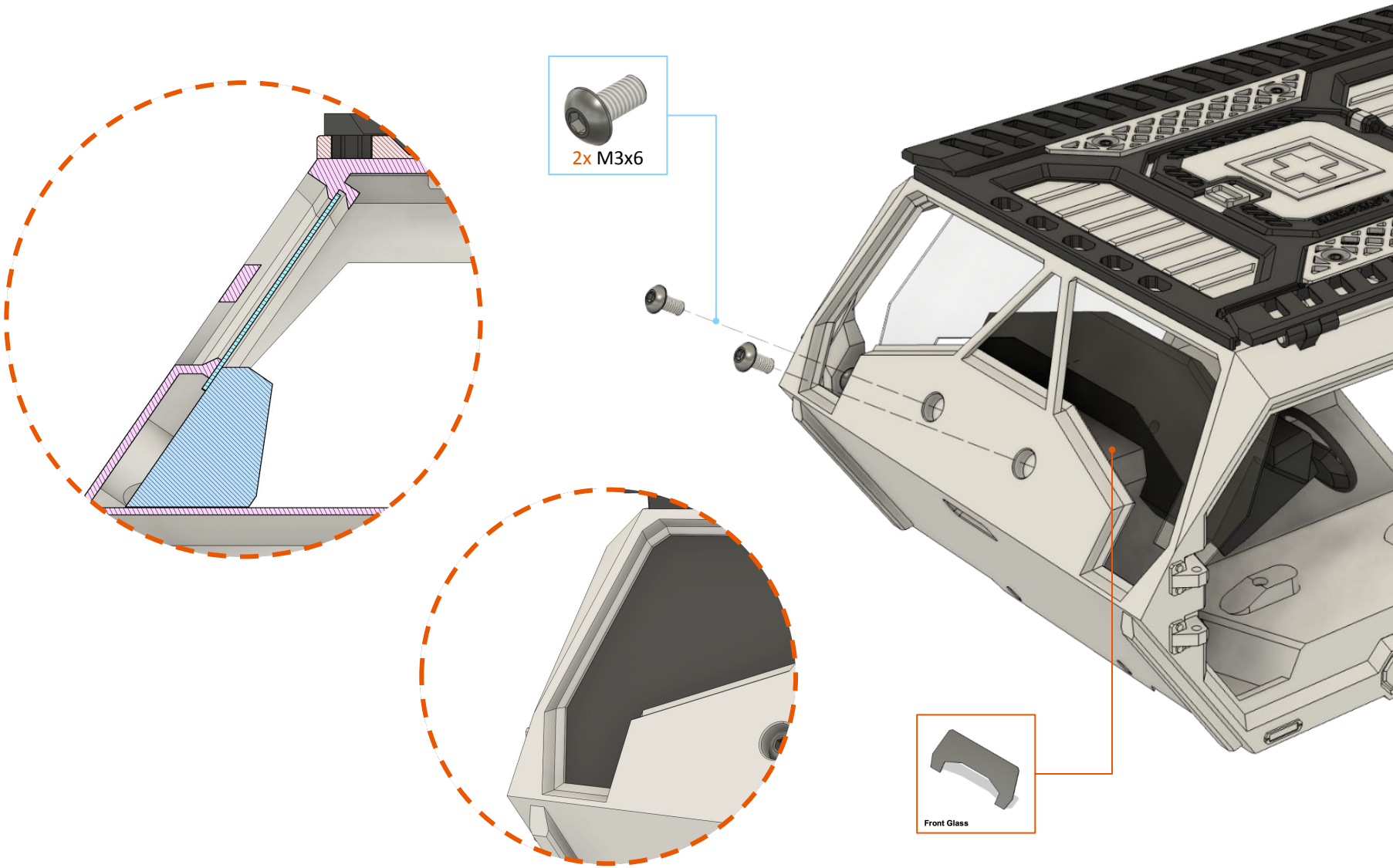
At first, you will make a “glass” from any transparent foil up to 0.5 mm thick. Thicker material is more durable than thinner, but we found that “Clear Binding Covers” are OK.

Place the printed template on the foil, sketch the shape to foil and then cut the foil by scissors or sharp knife.

Dashboard & Steering Wheel



Dashboard installation



Rescuer – Front Body

In this procedure you will assemble the front bodywork of the car.

Required print plates:

- "Print 4 - Roof Reinforcement + Front Body Top + Details"
- "Print 5 - Roof Grill + Front Grill + Light Front Inner + Exhaust"
- "Print 6 - Rail + Front Body Top Grill + Roof Hatch Handle"
- "Print 14 - Front Body + Rear Body"
- "Print 15 - Front Mask"
- "Print 16 - Hood"
- "Print 17 - Winker + Light Rear"
- "Print 18 - Light Front Hood"

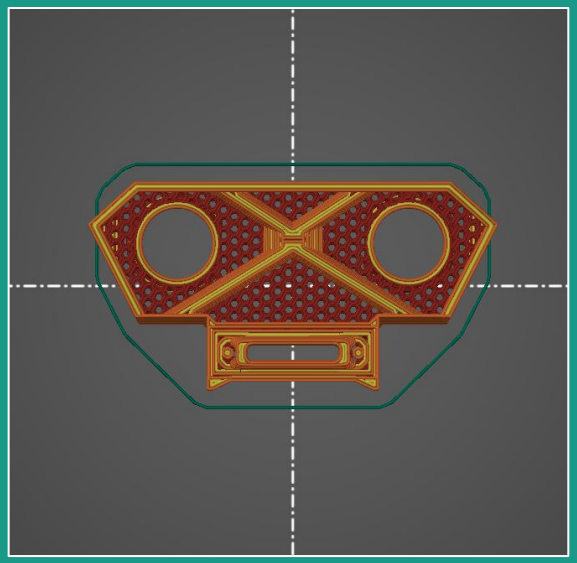
Non-printed parts:

- Screw M3x8: 2 pcs.

Front Mask

If you will print the part “Front Mask” from the .stl file instead of printing from provided gcode, please use following slicer setup:

- Solid layers - Top / Bottom (0 layers)
- Infill density: 30%
- Infill type: Honeycomb
- Perimeters: 2
- Fill angle: 0°



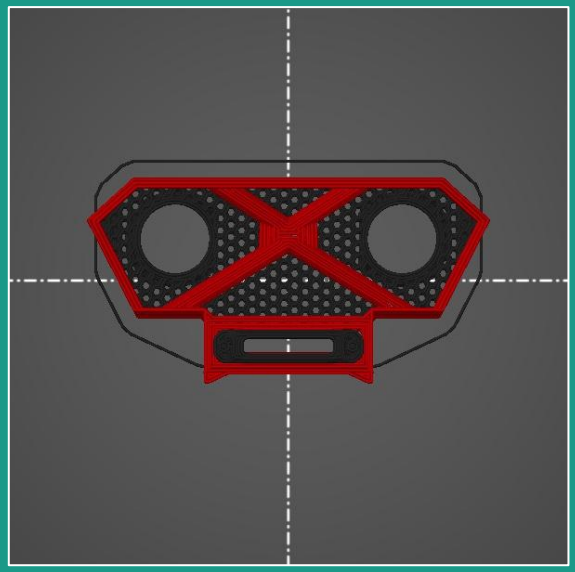
You can print Front Mask with filament changes to achieve color results. Please, setup filament changes in layer heights described below (setup is for layer height 0,15mm):

Change filament at:

- Layer 22 - height 3,35mm
- Layer 46 - height 6,95mm

Starting color: black

- 1st color change: red
- 2nd color change: black

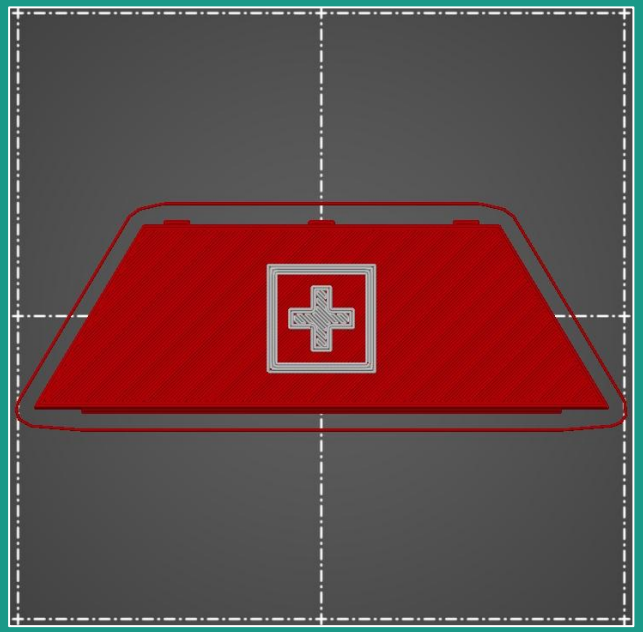


Hood

You can print Hood and Light Front Hood with filament changes to achieve color results. Please, setup filament changes in layer heights described below (setup is for layer height 0,15mm):

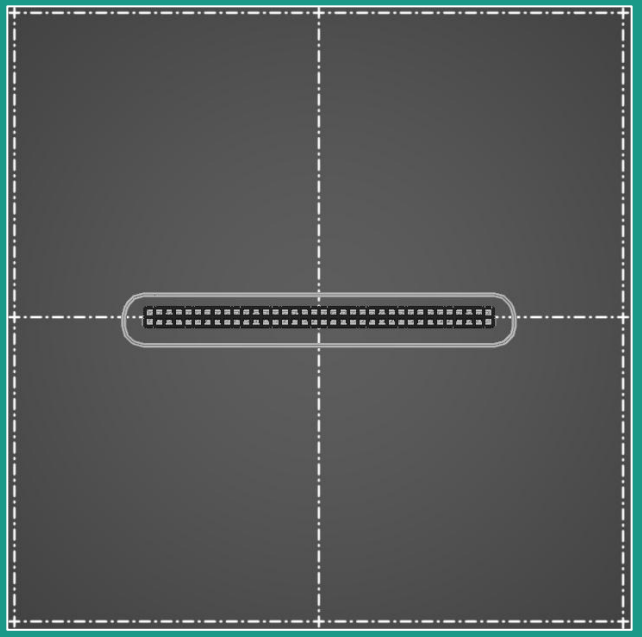
Door Roof Outer

- Change filament at Layer 14 - height 2,15mm
- Layer color before change: red
- Layer color after change: white



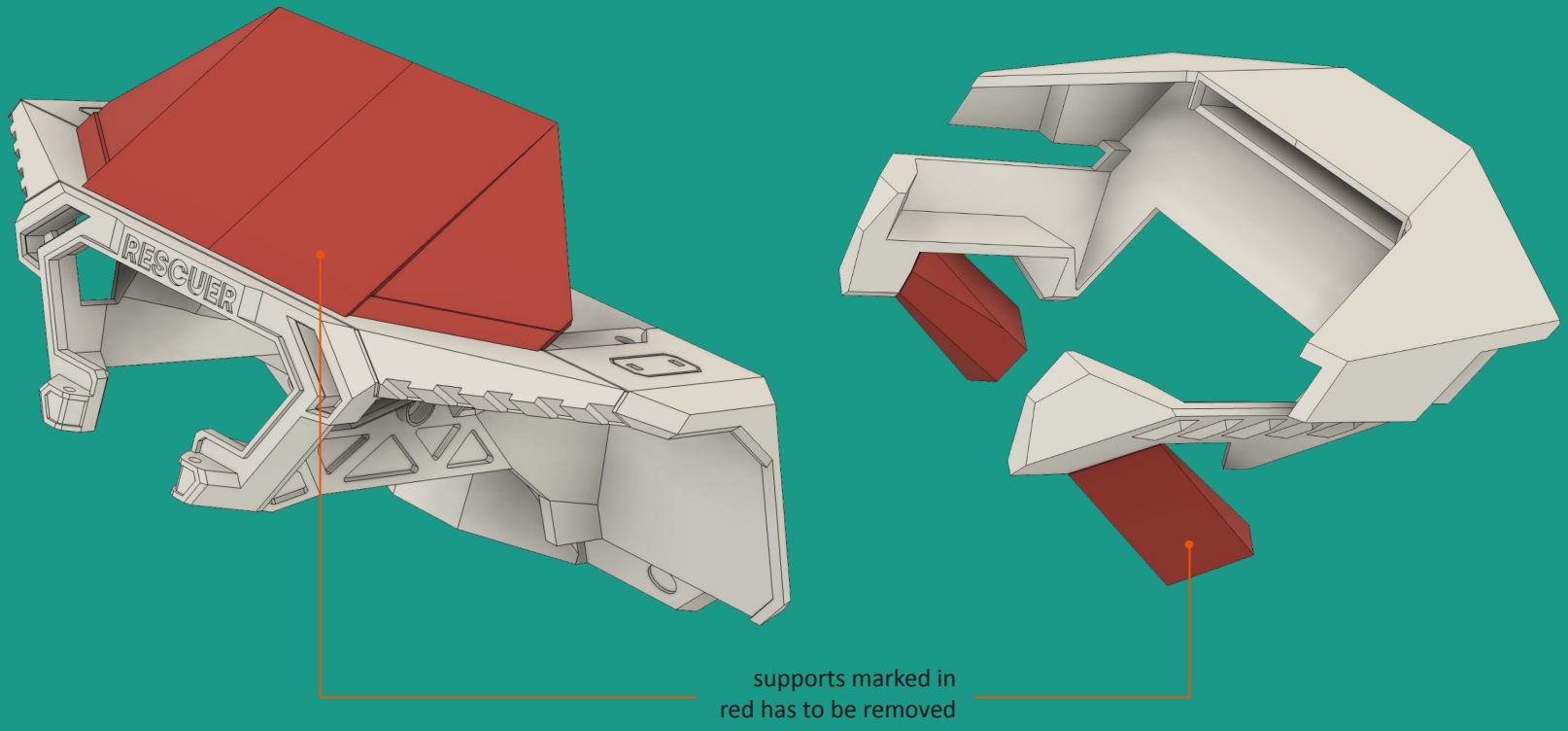
Light Front Hood

- Change filament at Layer 10 - height 1,55mm
- Layer color before change: white
- Layer color after change: silver

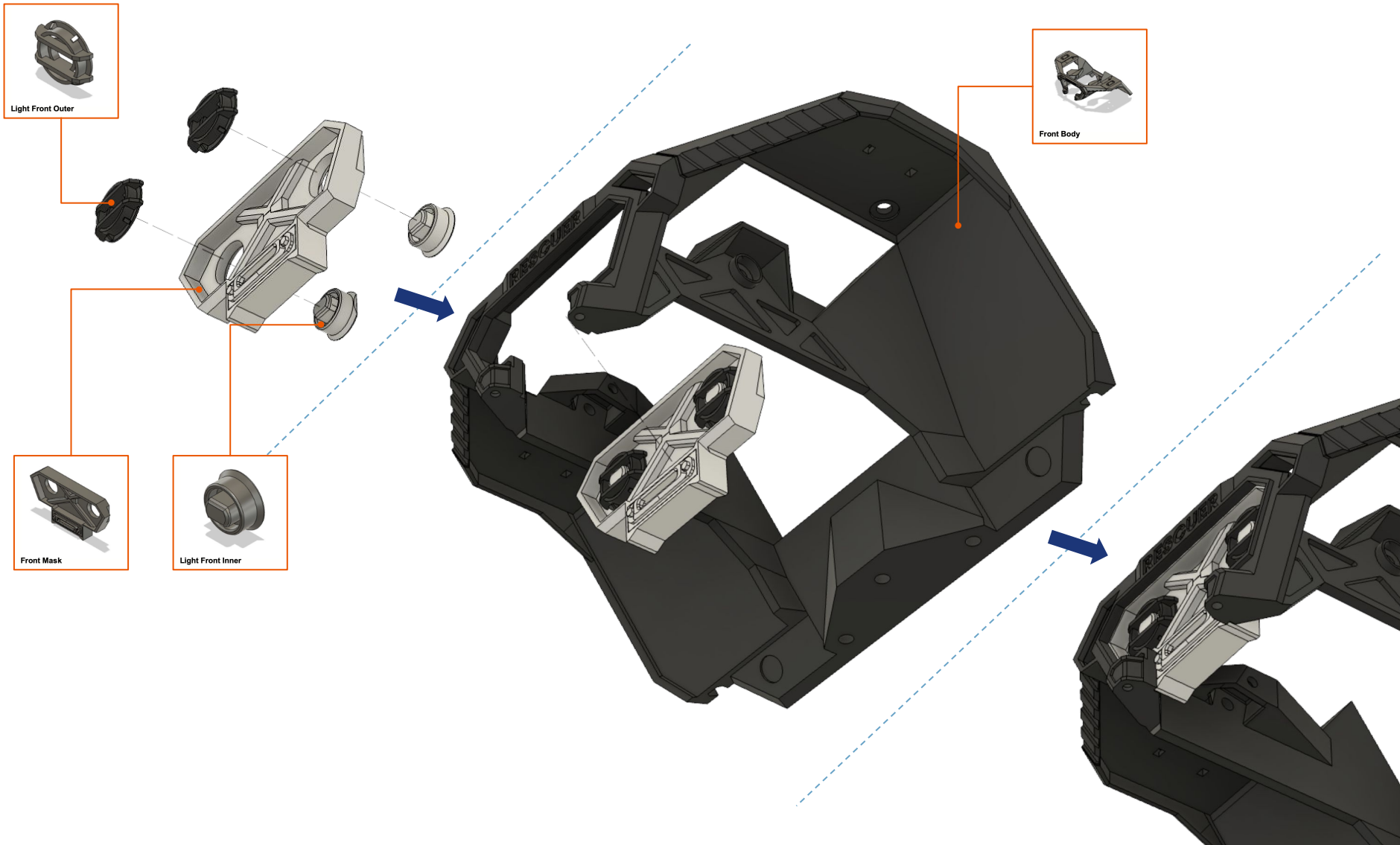


Postprocessing – removing supports

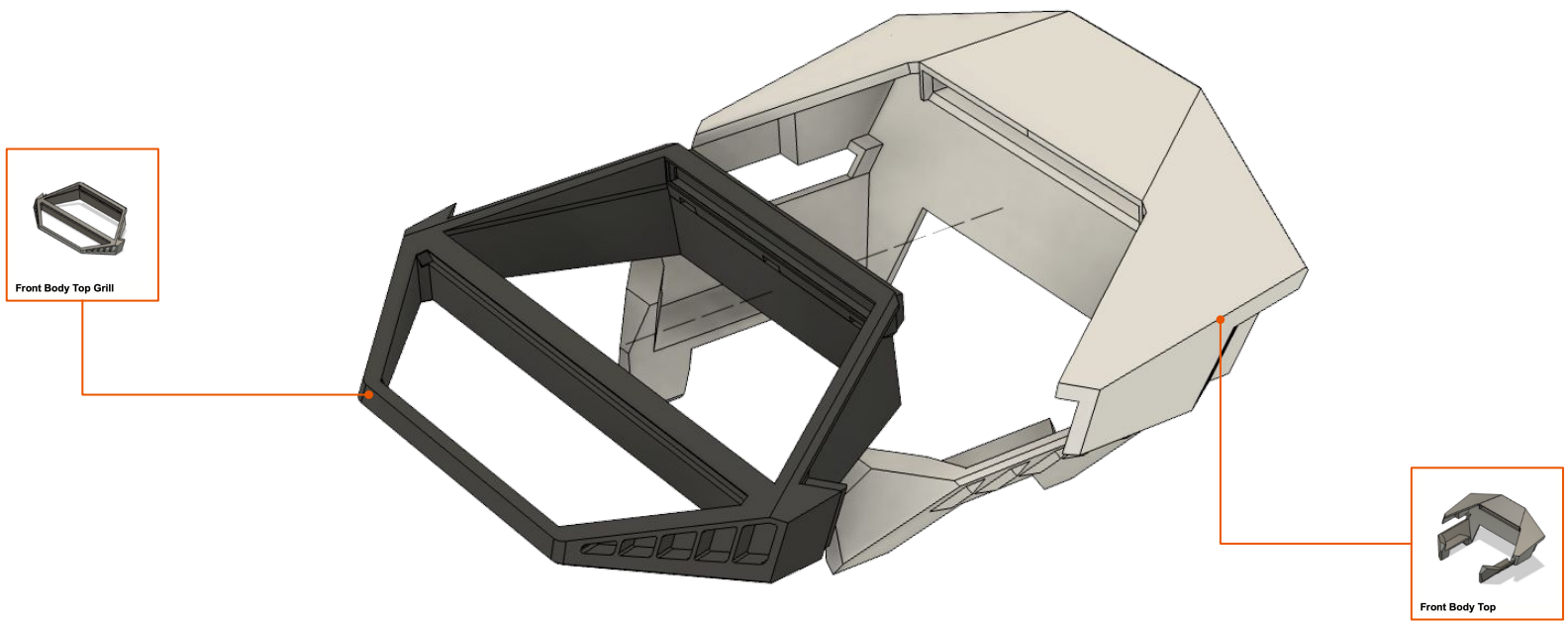
Before you start building, carefully remove printing supports (marked red) integrated to specific parts rendered below. You can use pliers and sharp knife to make the procedure easier. Be very careful as you can harm yourself!



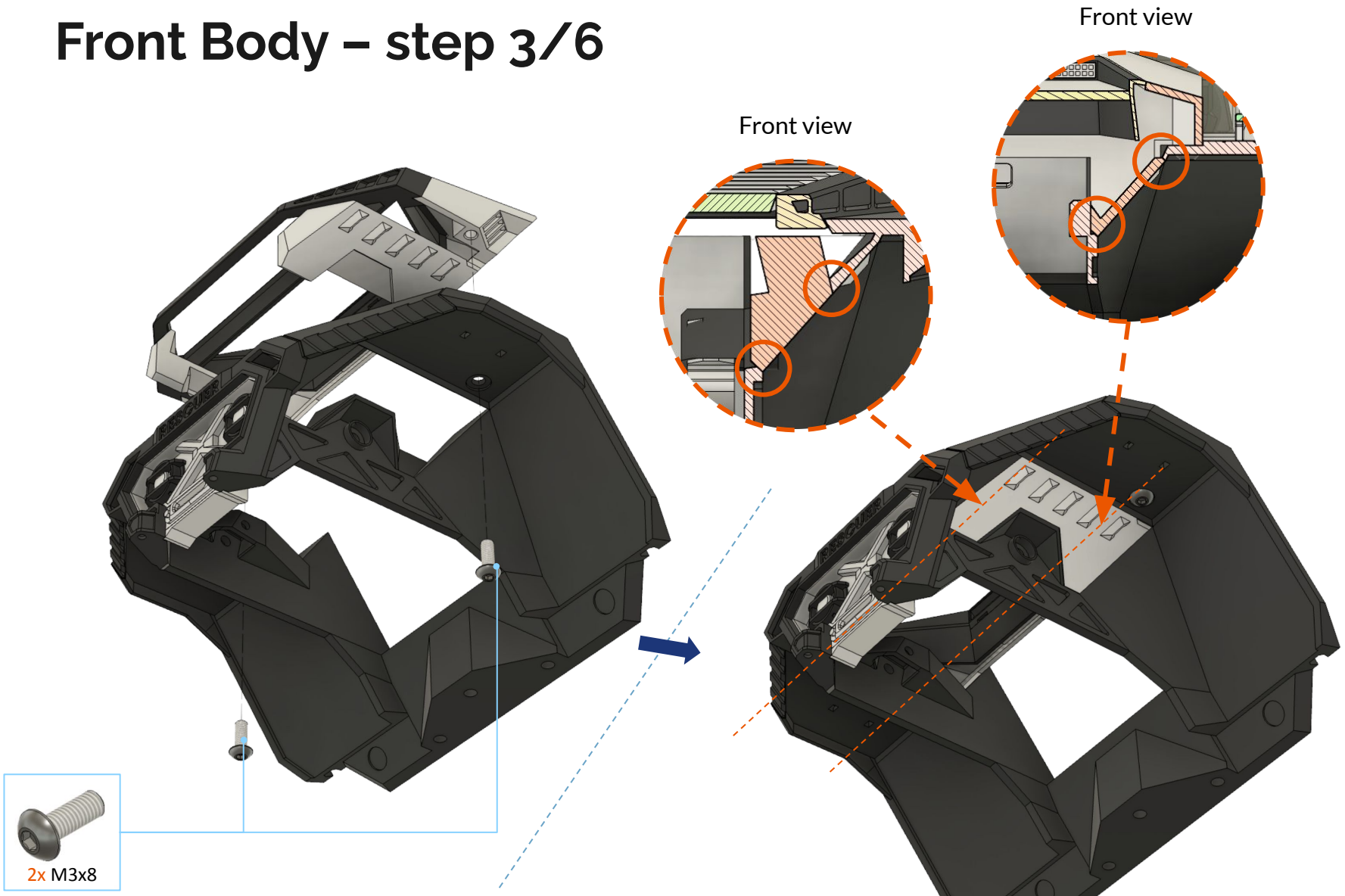
Front Body – step 1/6



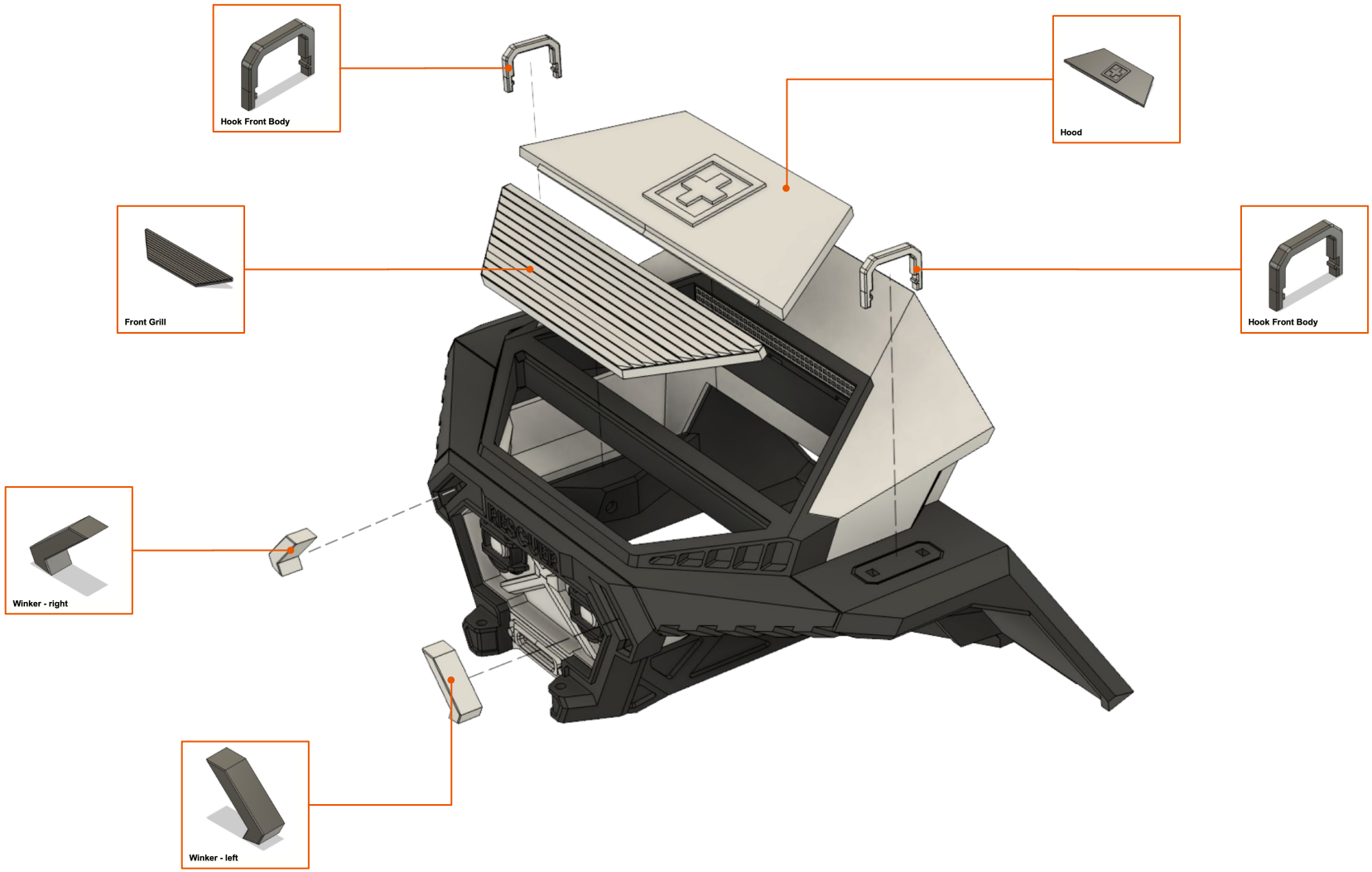
Front Body – step 2/6



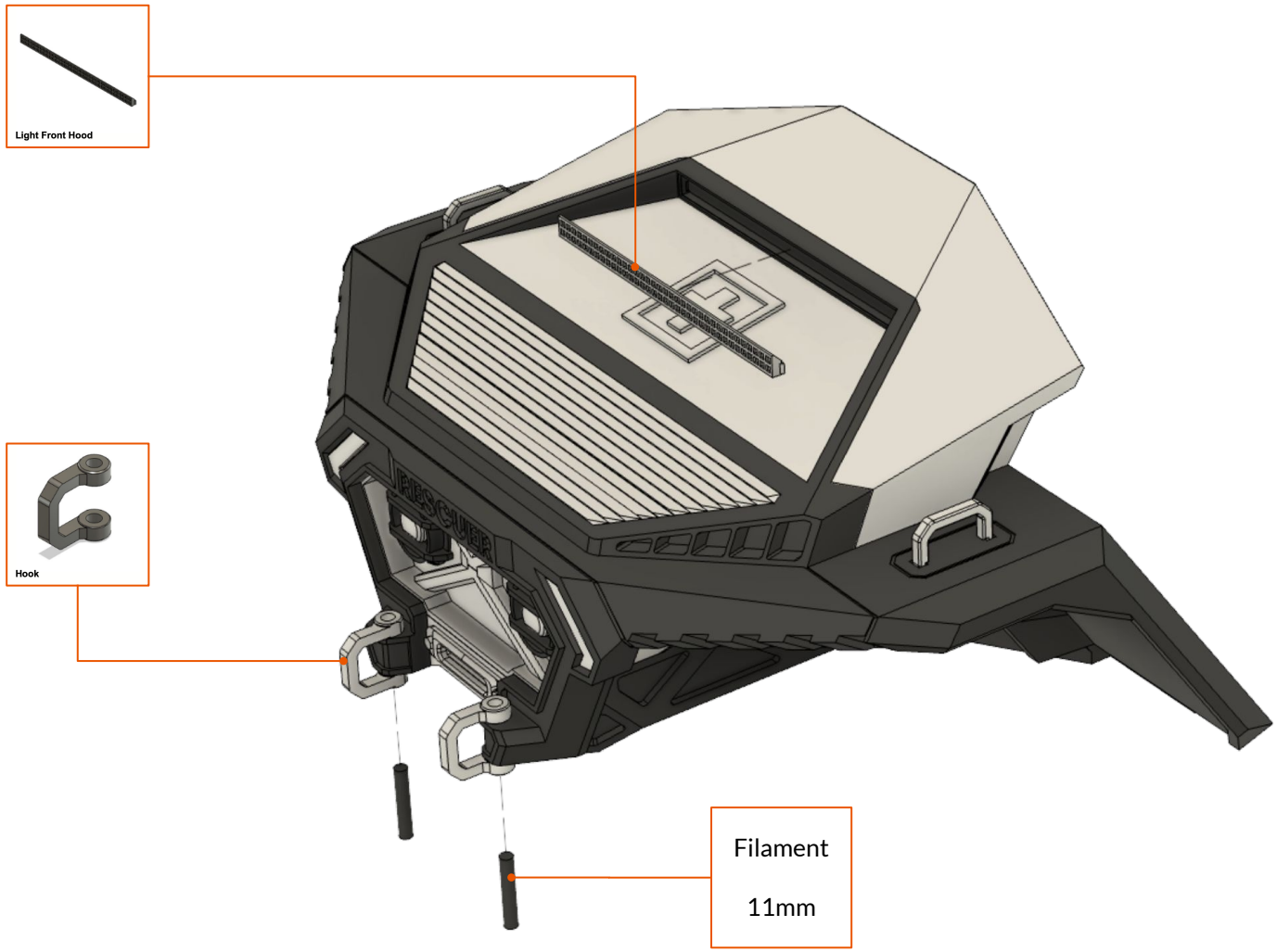
Front Body – step 3/6



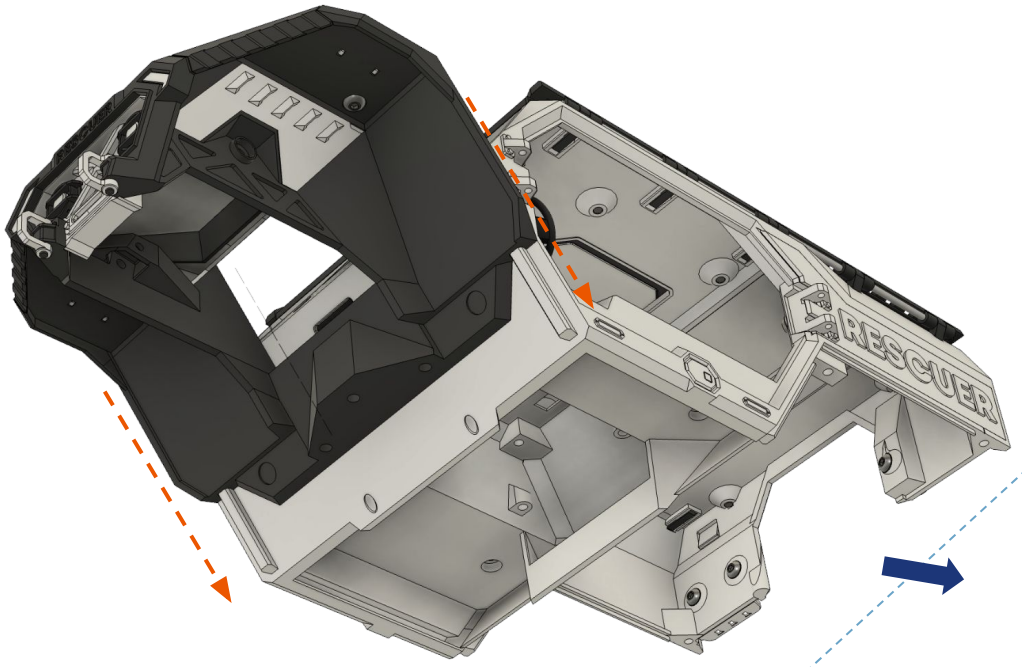
Front Body – step 4/6

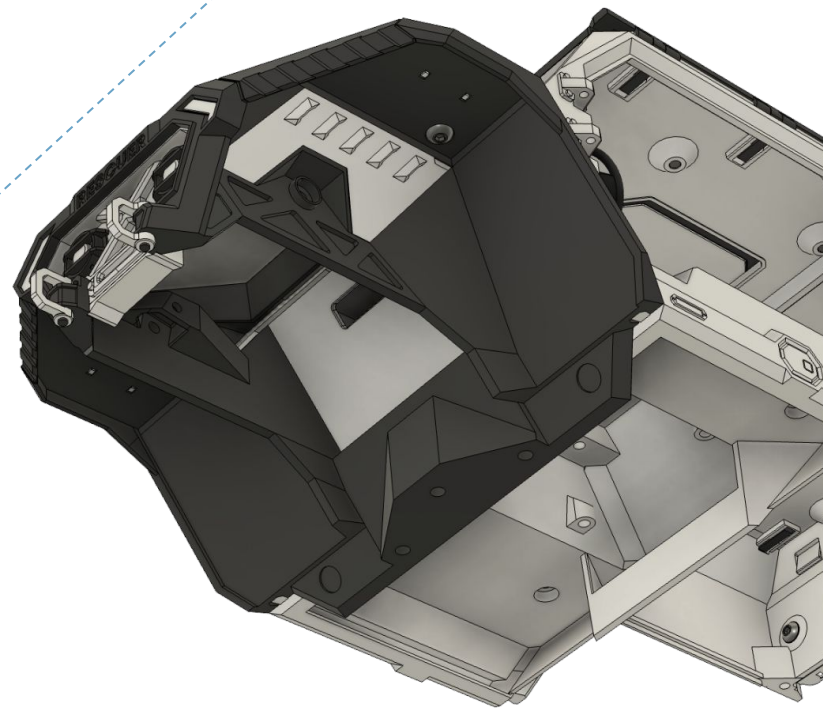


Front Body – step 5/6



Front Body – step 6/6





Rescuer – Rear Body

In this procedure you will assemble the rear bodywork of the car.

Required print plates:

- "Print 5 - Roof Grill + Front Grill + Light Front Inner + Exhaust"
- "Print 14 - Front Body + Rear Body"
- "Print 17 - Winker + Light Rear"
- "Print 19 - Rear Bumper + Splash Guard + Hawse Fairlead"

Non-printed parts:

- Screw M3x6: 2 pcs.
- Screw M3x8: 2 pcs.

Rear Light

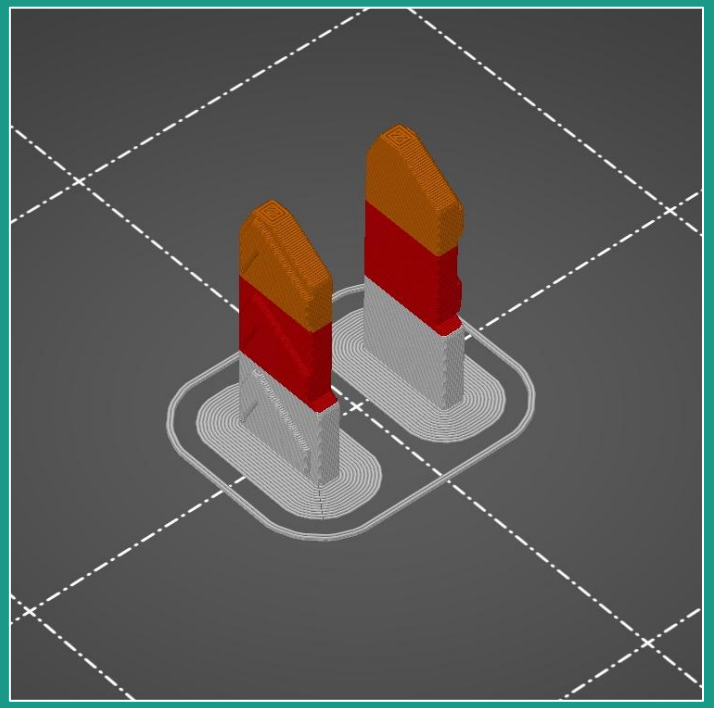
You can print Light Rear with filament changes to achieve color results. Please, setup filament changes in layer heights described below (setup is for layer height 0,15mm):

Change filament at:

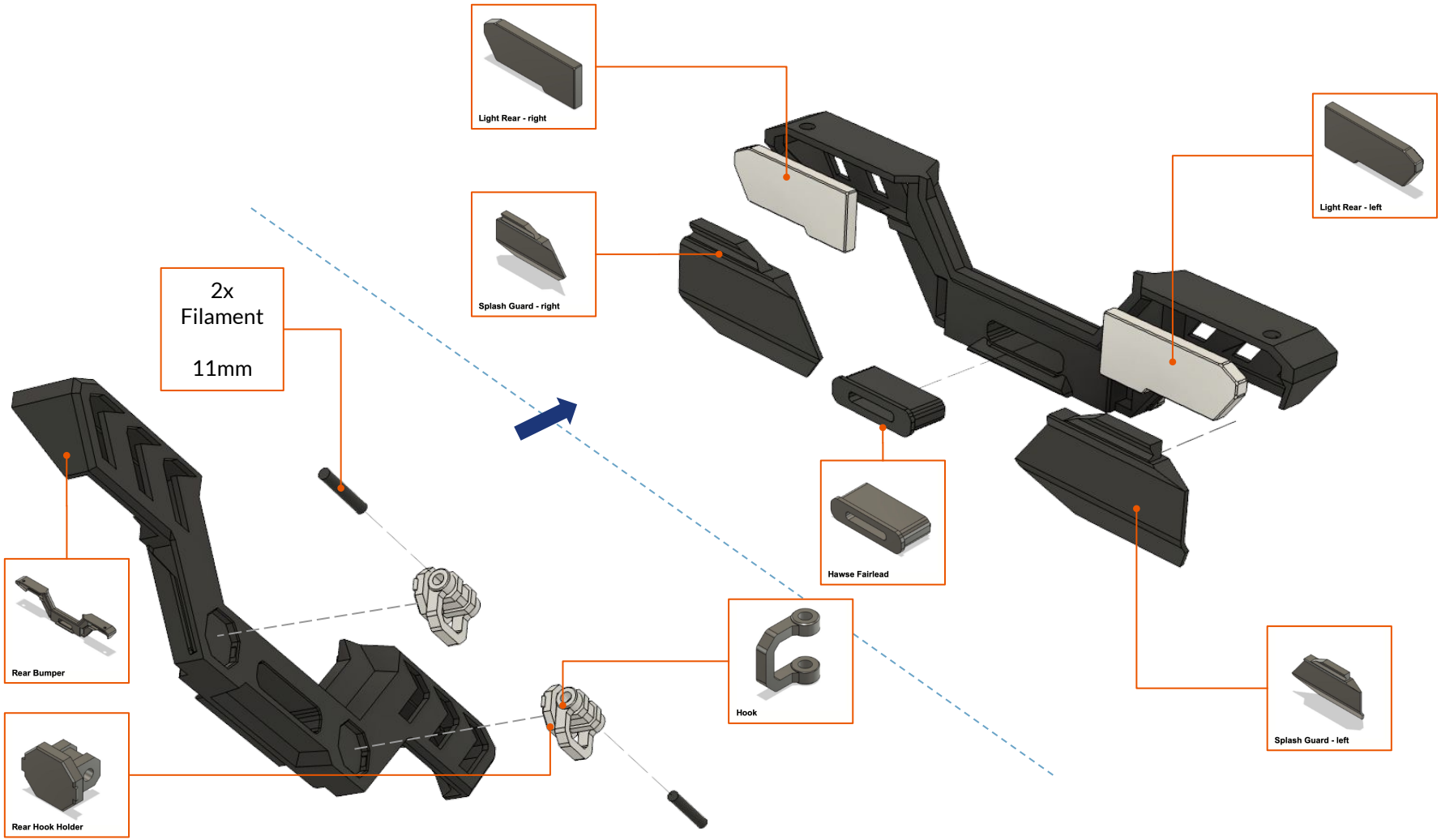
- Layer 74 - height 11,15mm
- Layer 147 - height 22,10mm

Starting color: transparent

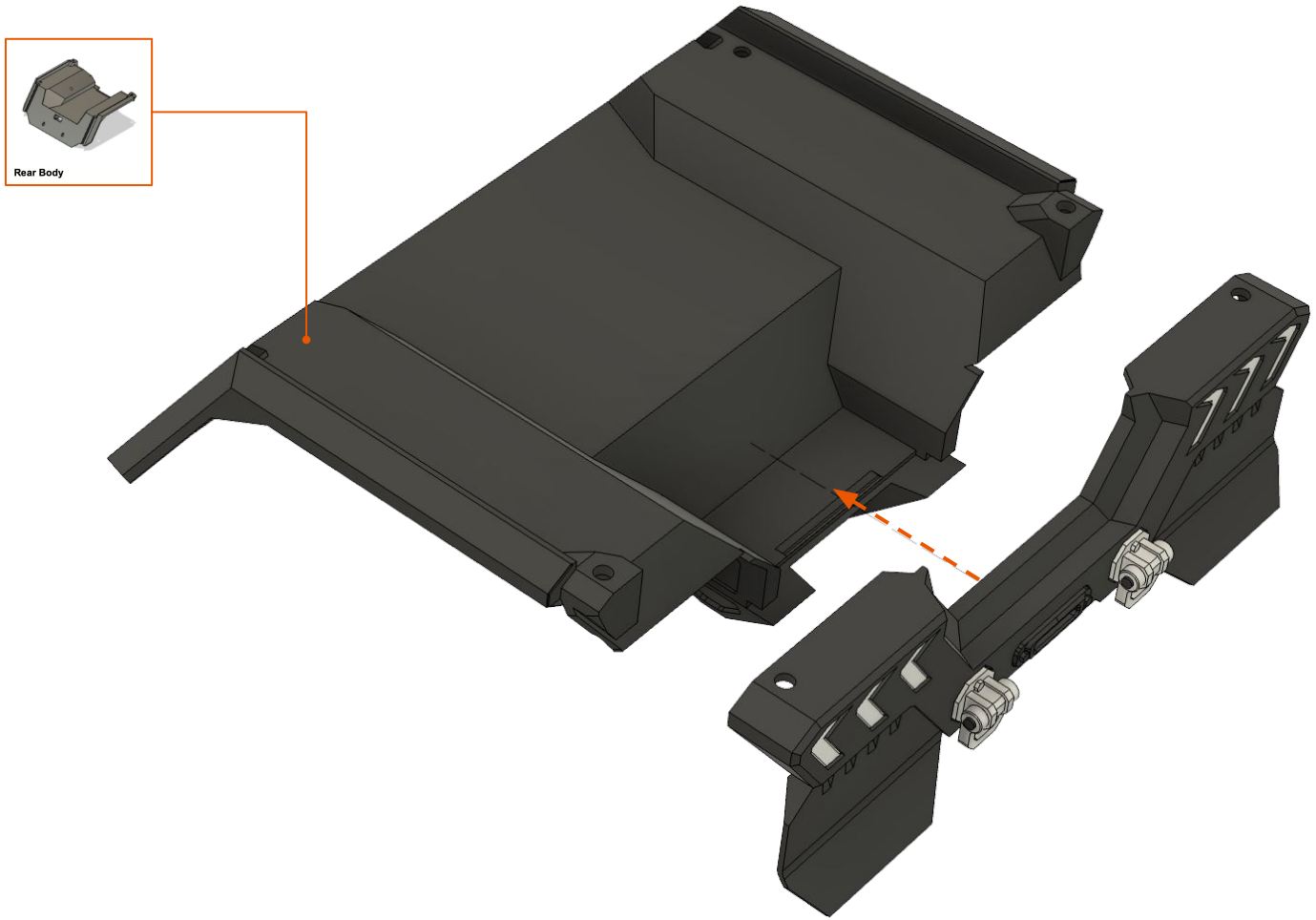
- 1st color change: red
- 2nd color change: orange



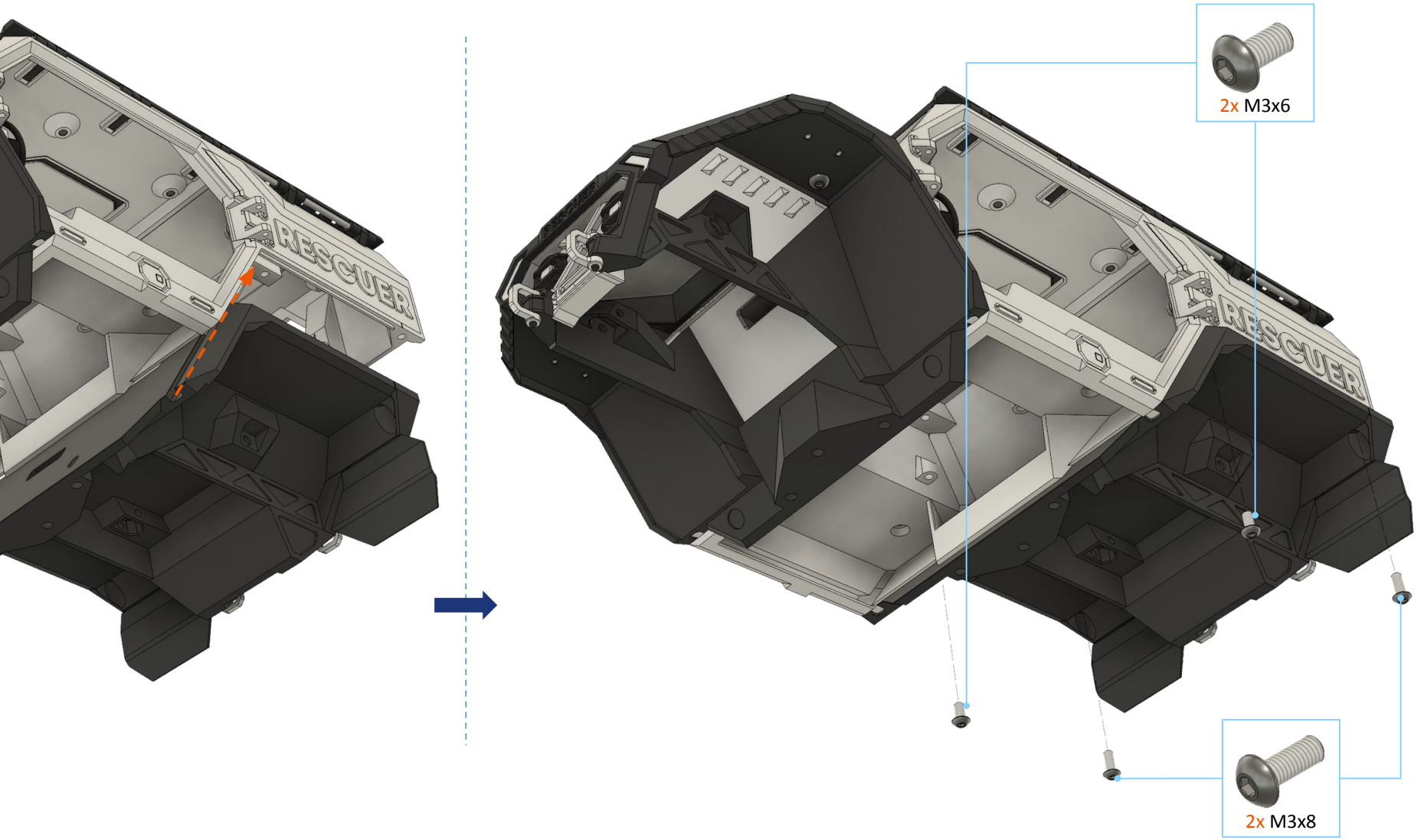
Rear Bumper


Light Rear - right
Light Rear - left
Splash Guard - right
2x
Filament
11mm
Hawse Fairlead
Rear Bumper
Hook
Splash Guard - left
Rear Hook Holder

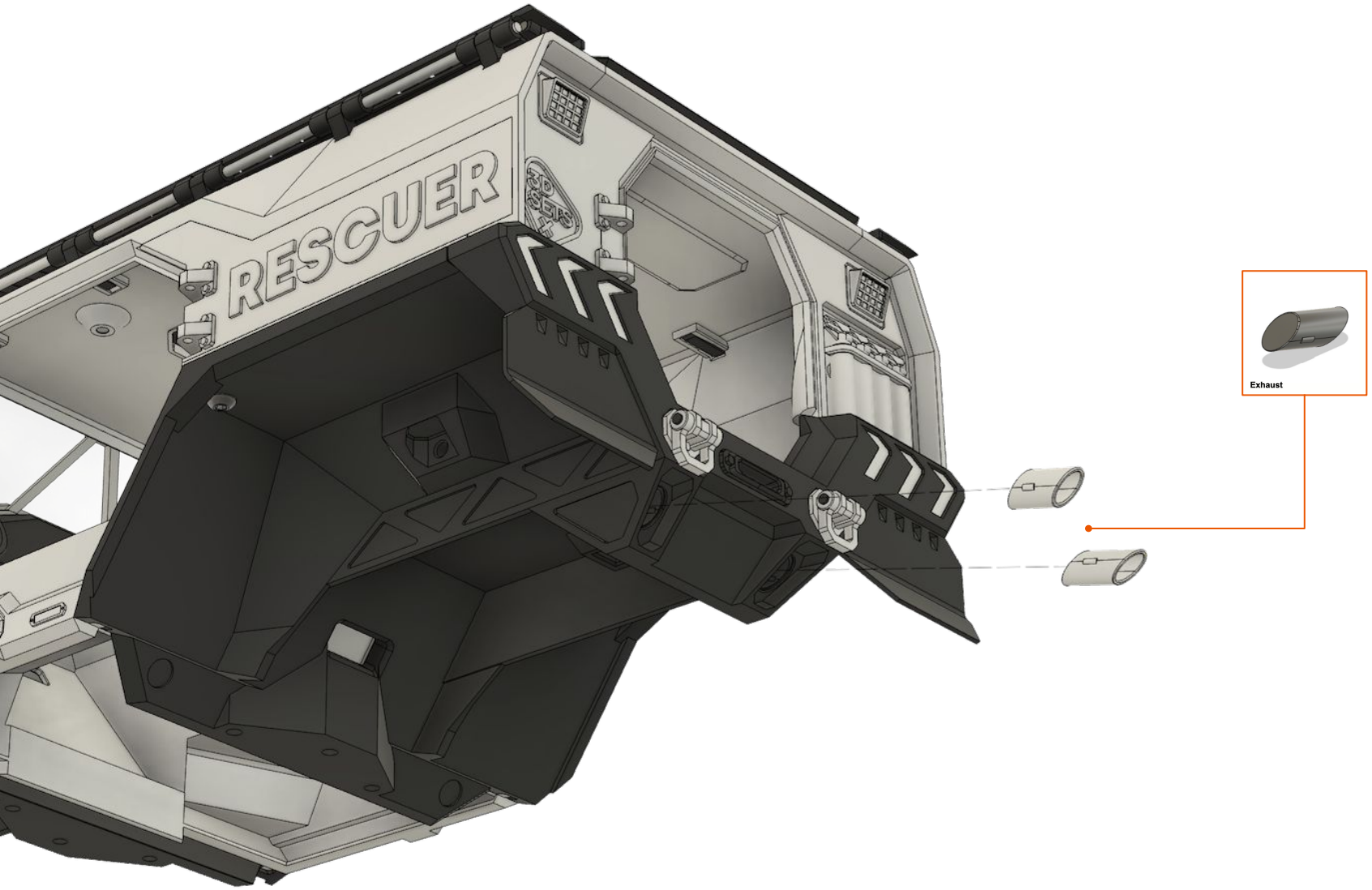
Rear Bumper installation



Rear Body installation



Exhausts installation



Rescuer – Seats

In this procedure you will assemble the seats of the car.

Required print plates:

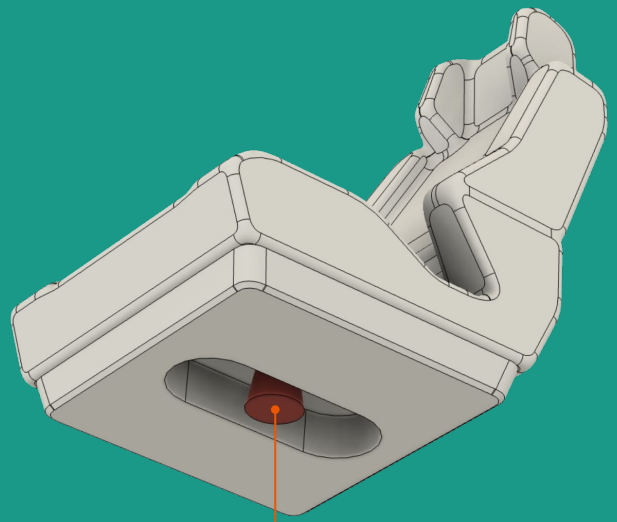
- "Print 20 - Seat"

Non-printed parts:

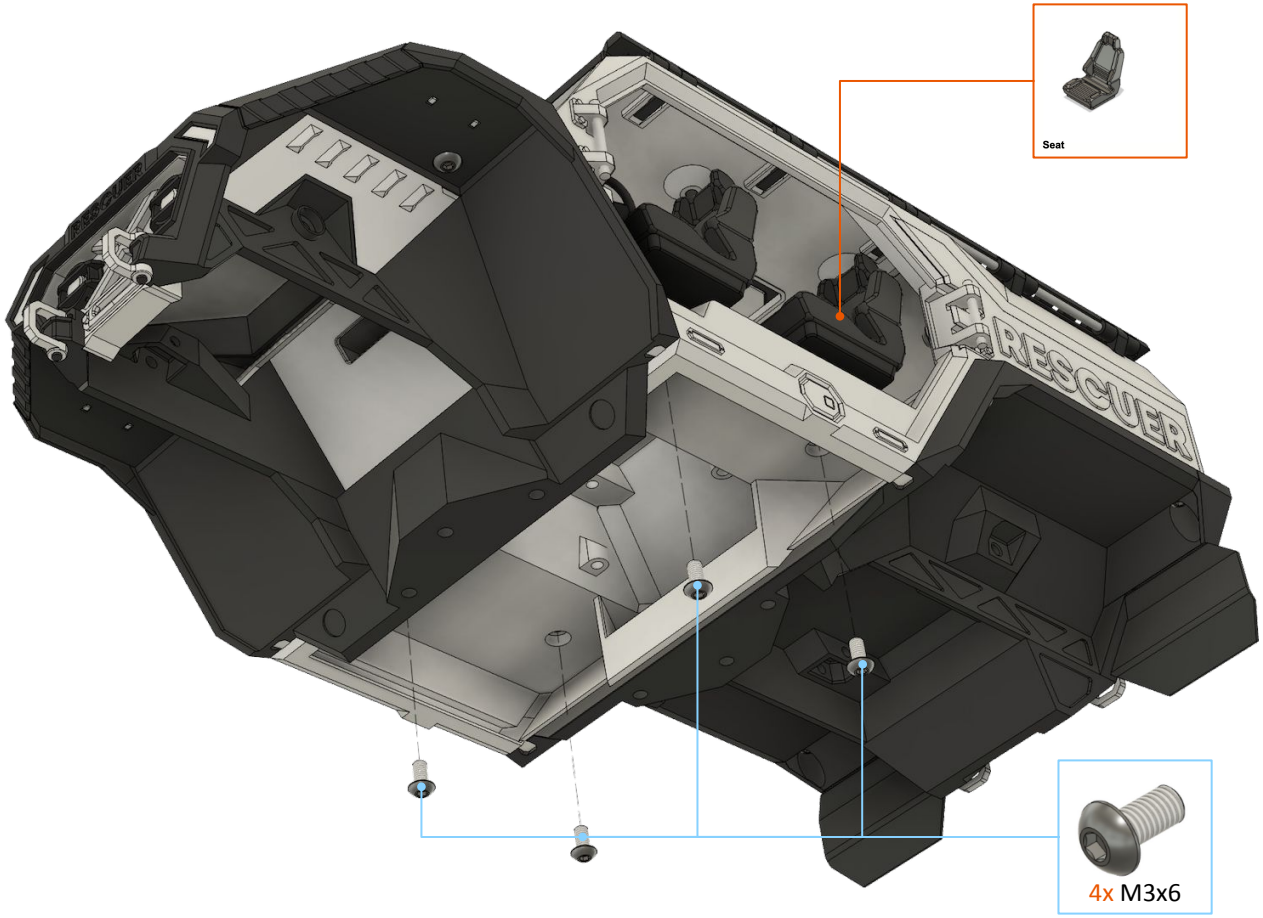
- Screw M3x6: 4 pcs.

Postprocessing – removing supports

Before you start building, carefully remove printing supports (marked red) integrated to specific parts rendered below. You can use pliers and sharp knife to make the procedure easier. Be very careful as you can harm yourself!



Seats installation



Rescuer – Side Doors

In this procedure you will assemble the side doors of the car.

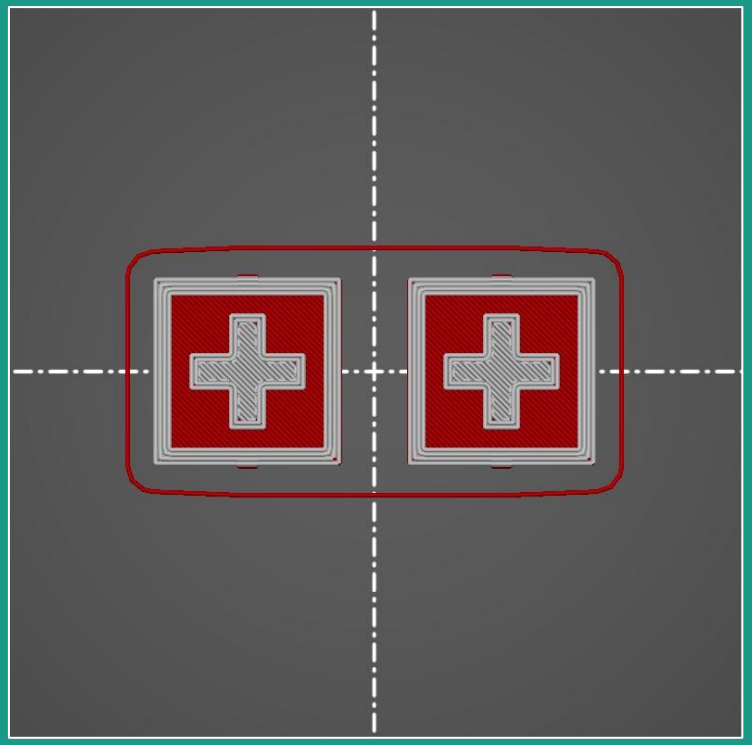
Required print plates:

- "Print 2 - Side Panel + Door Side Front Symbol"
- "Print 21 - Door Side"
- "Print 22 - Door Detail"

Door Side Front Symbol

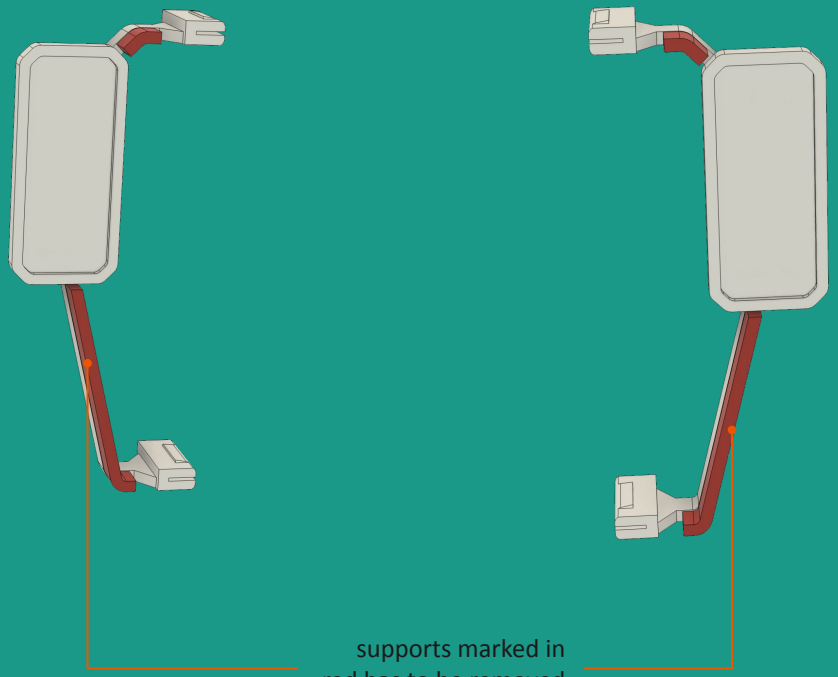
You can print Door Side Front Symbol with filament changes to achieve color results. Please, setup filament changes in layer heights described below (setup is for layer height 0,15mm):

- Change filament at Layer 7 - height 1,10mm
- Layer color before change: red
- Layer color after change: white



Postprocessing – removing supports

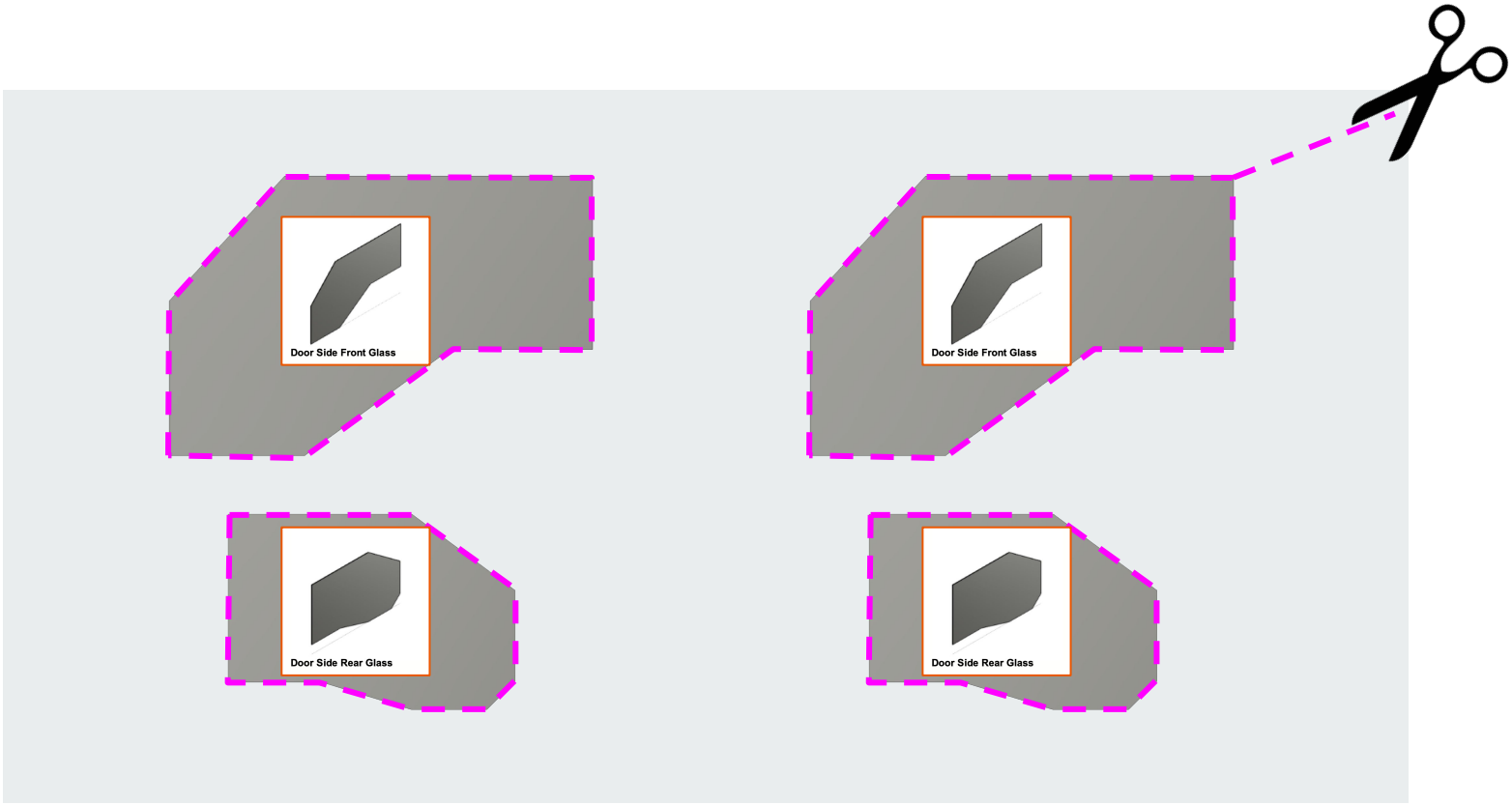
Before you start building, carefully remove printing supports (marked red) integrated to specific parts rendered below. You can use pliers and sharp knife to make the procedure easier. Be very careful as you can harm yourself!



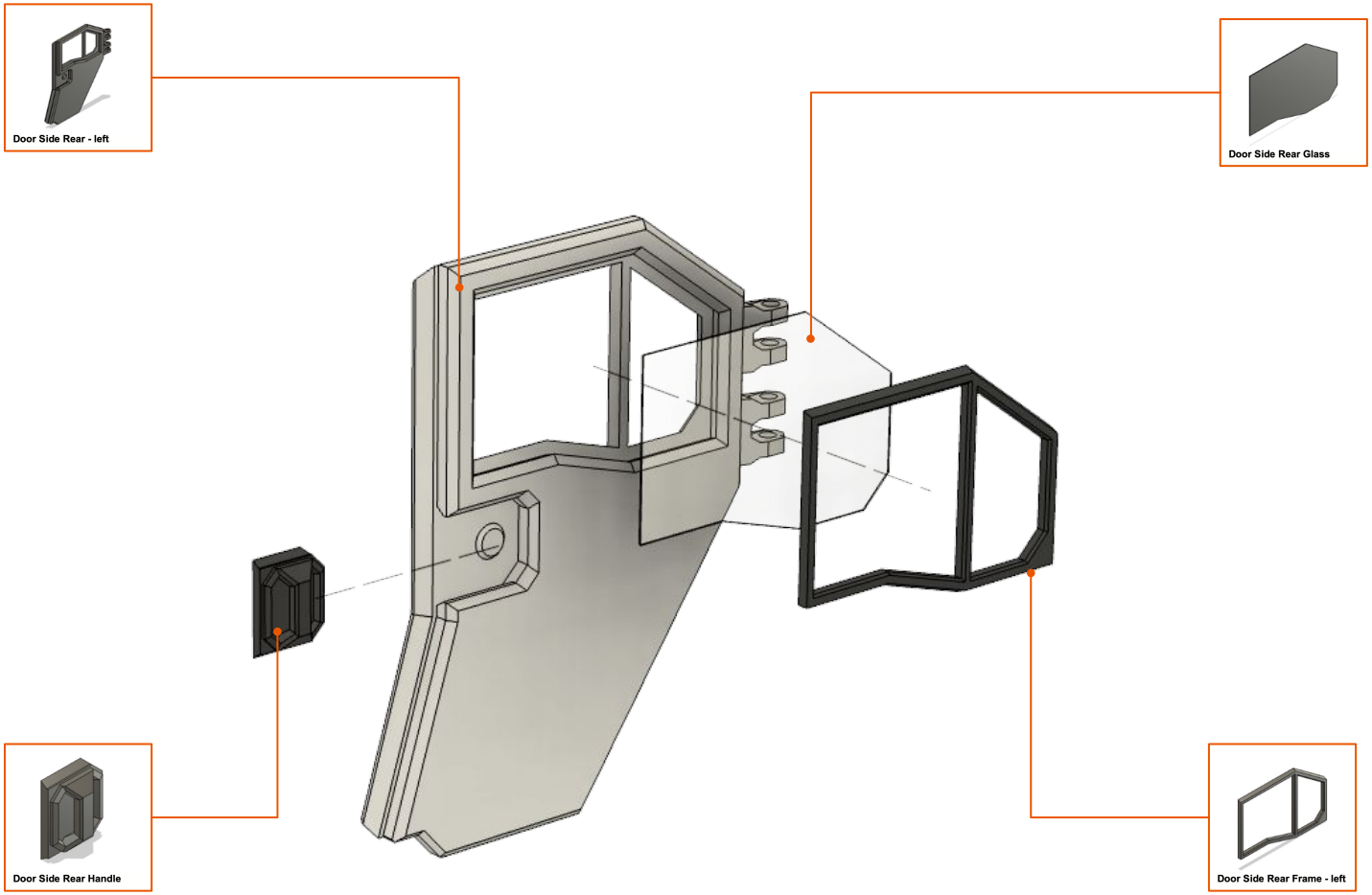
Glass

At first, you will make a “glass” from any transparent foil up to 0.5 mm thick. Thicker material is more durable than thinner, but we found that “Clear Binding Covers” are OK.

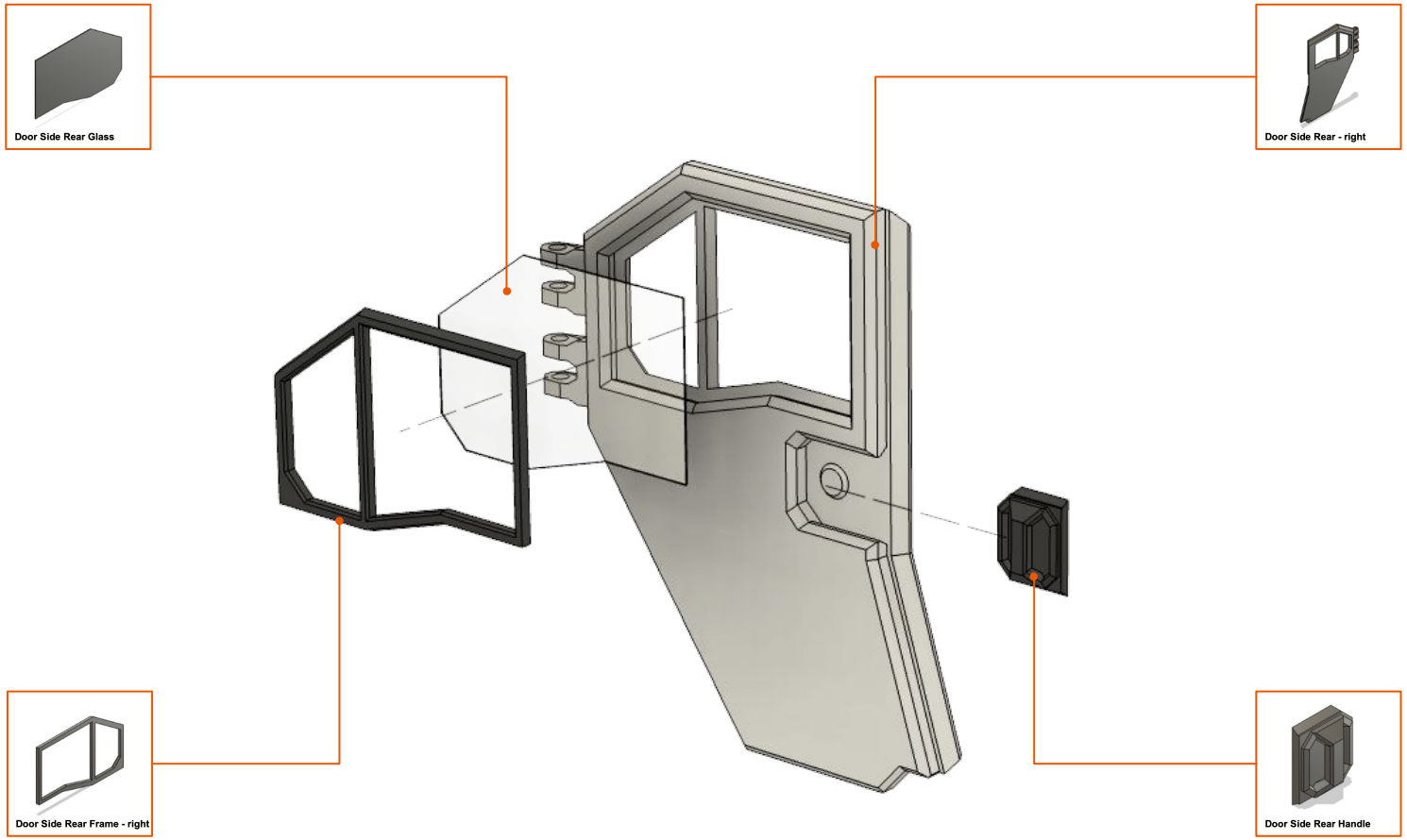
Place the printed template on the foil, sketch the shape to foil and then cut the foil by scissors or sharp knife.



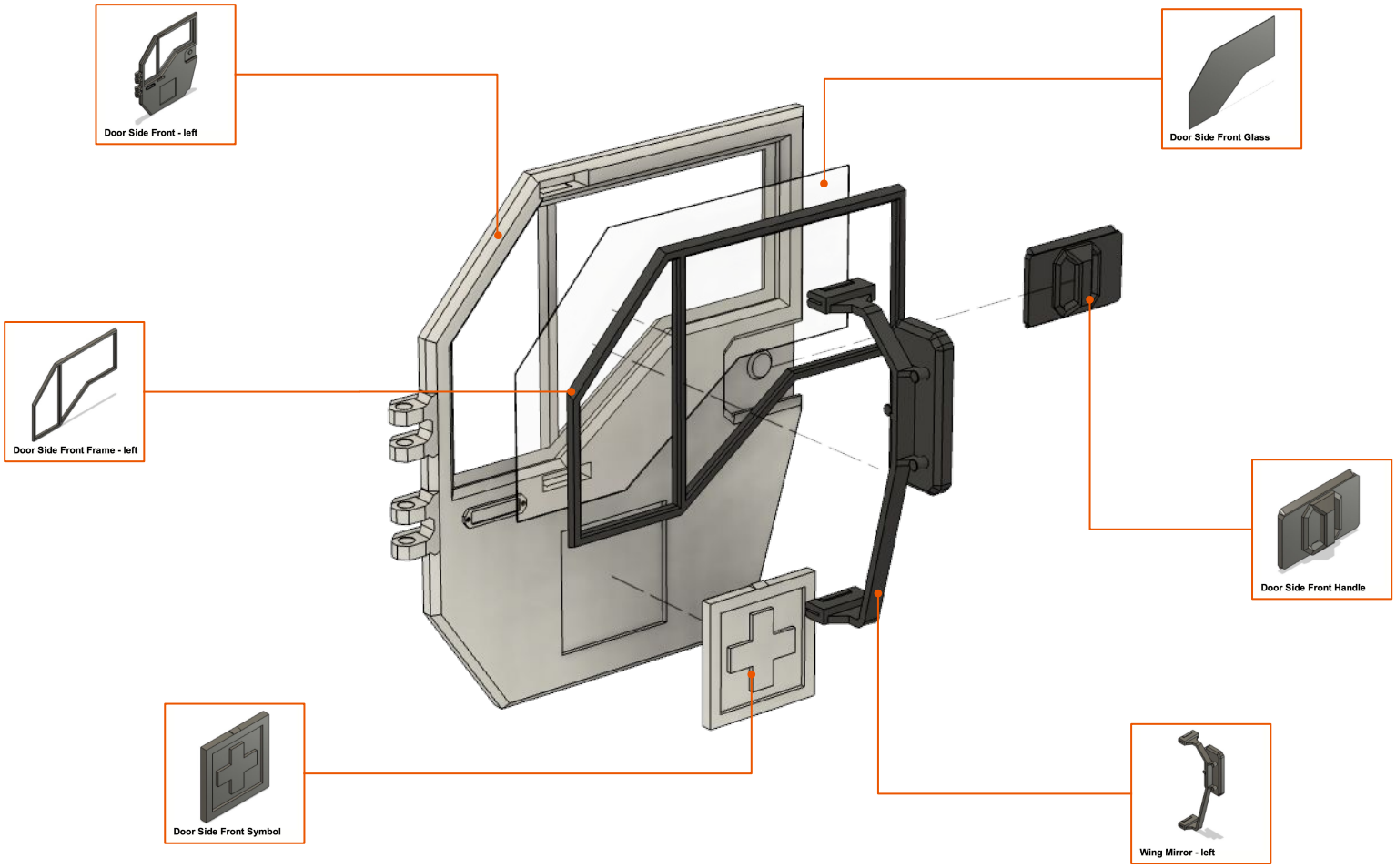
Doos Side Rear – left



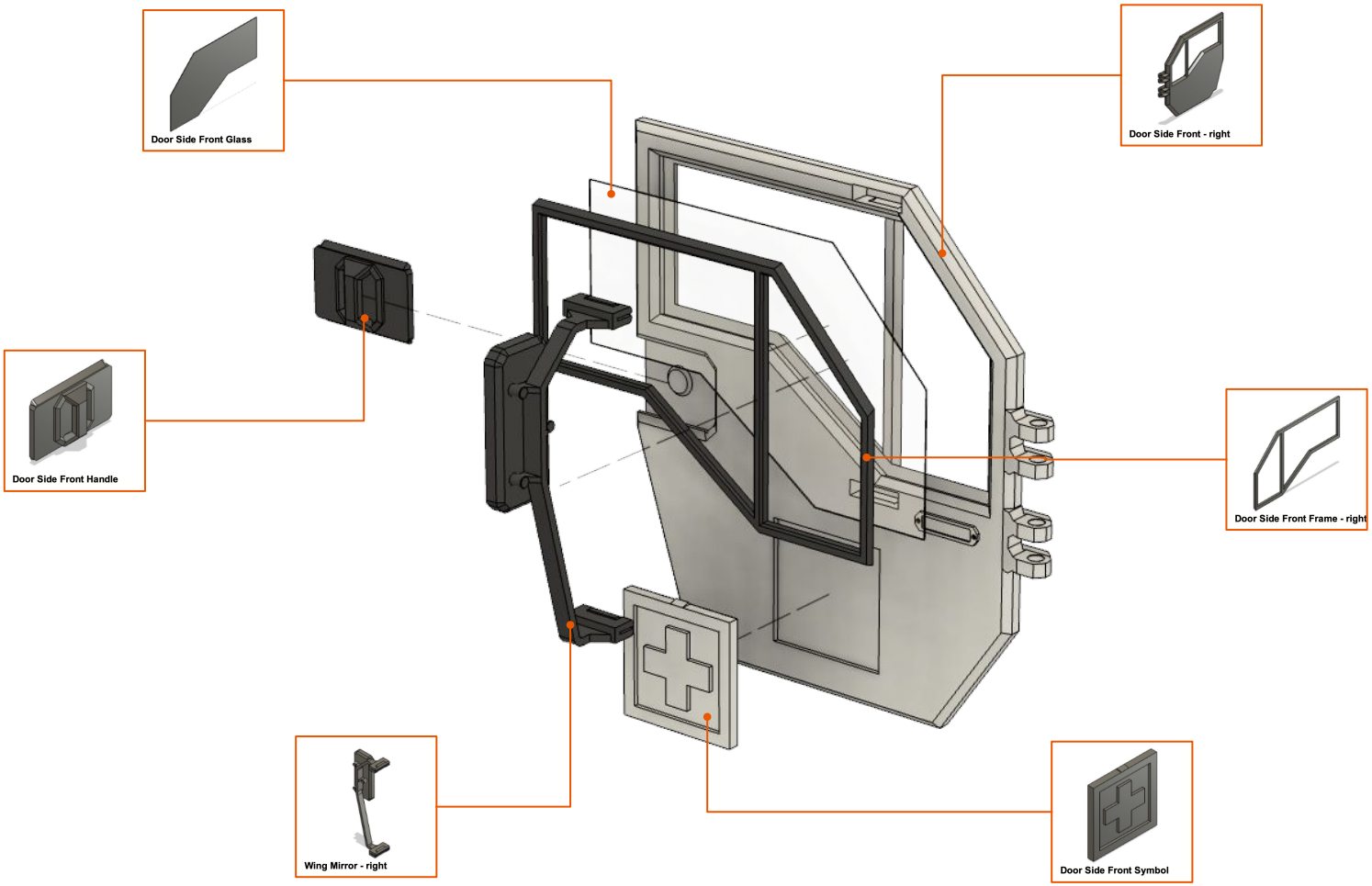
Doos Side Rear – right



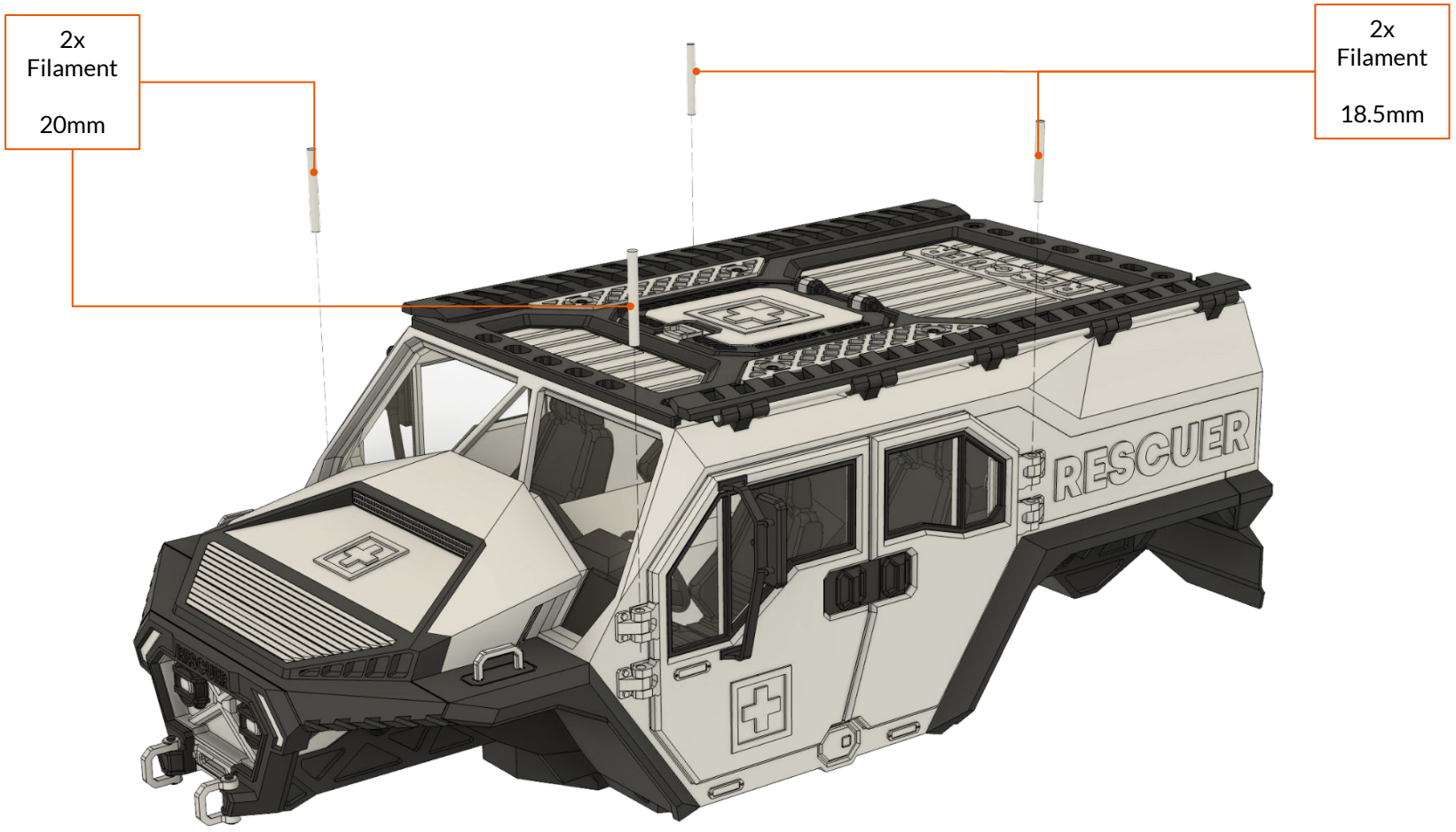
Doos Side Front – left



Doos Side Front – left



Side Doors installation



Rescuer – Rear Door

In this procedure you will assemble the rear door of the car.

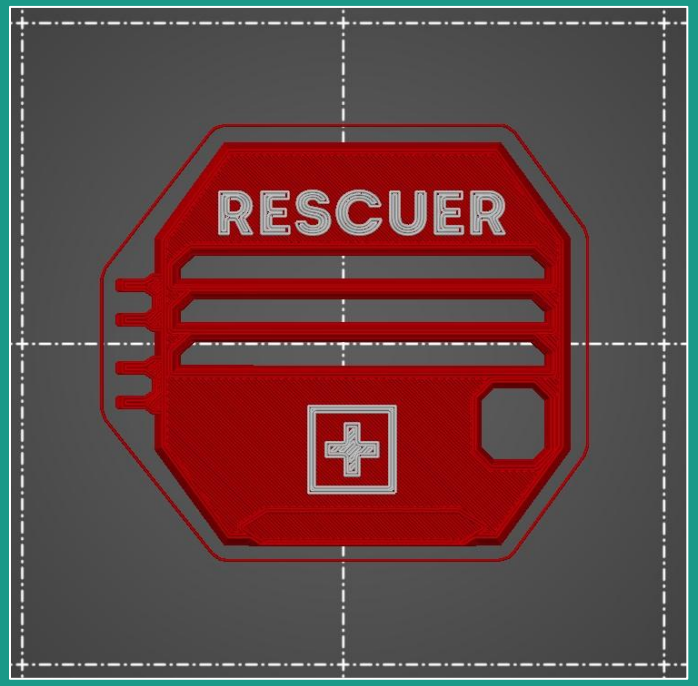
Required print plates:

- "Print 22 - Door Detail"
- "Print 23 - Door Rear"
- "Print 24 - Brake Light"

Rear Door

You can print Rear Door with filament changes to achieve color results. Please, setup filament changes in layer heights described below (setup is for layer height 0,15mm):

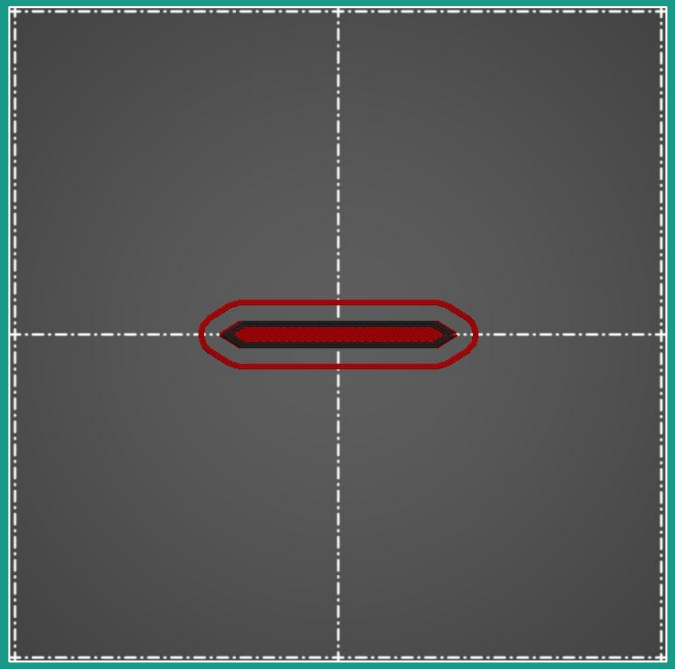
- Change filament at Layer 25 - height 3,8mm
- Layer color before change: red
- Layer color after change: white



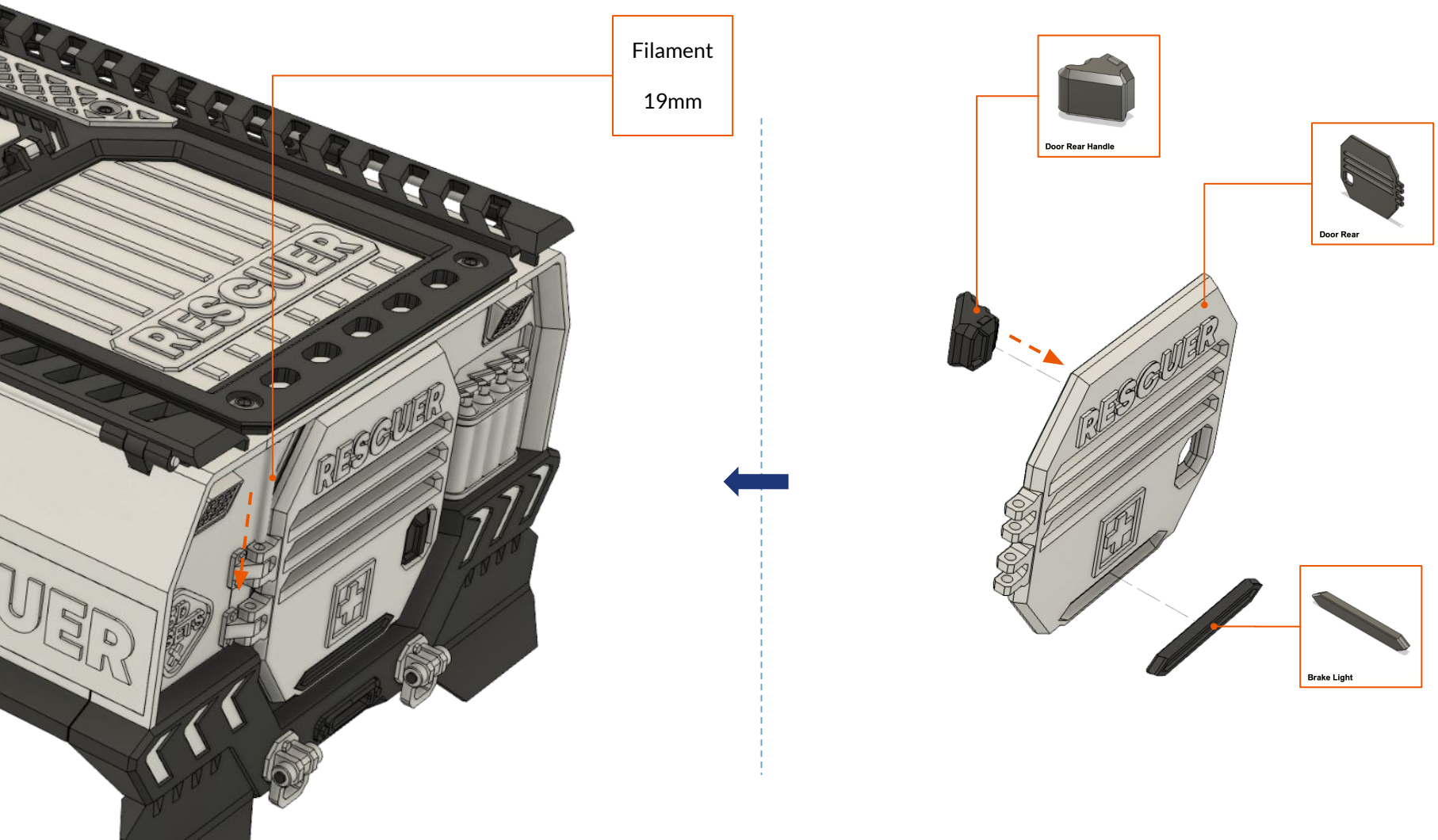
Brake Light

You can print Brake Light with filament changes to achieve color results. Please, setup filament changes in layer heights described below (setup is for layer height 0,15mm):

- Change filament at Layer 11 - height 1,7mm
- Layer color before change: red
- Layer color after change: black



Rear Doors installation



Arms + Ball joints

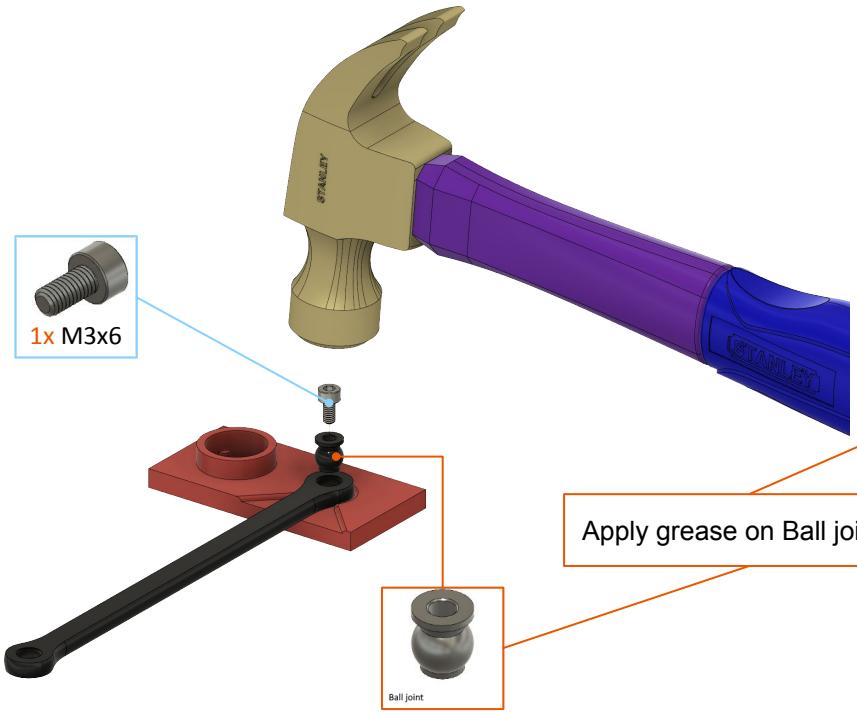
Press Ball joints in arm ends. Pay attention to combine parts correctly!
Ball joints requires correct orientation on specific arms – check next page!

Option A: use a hammer

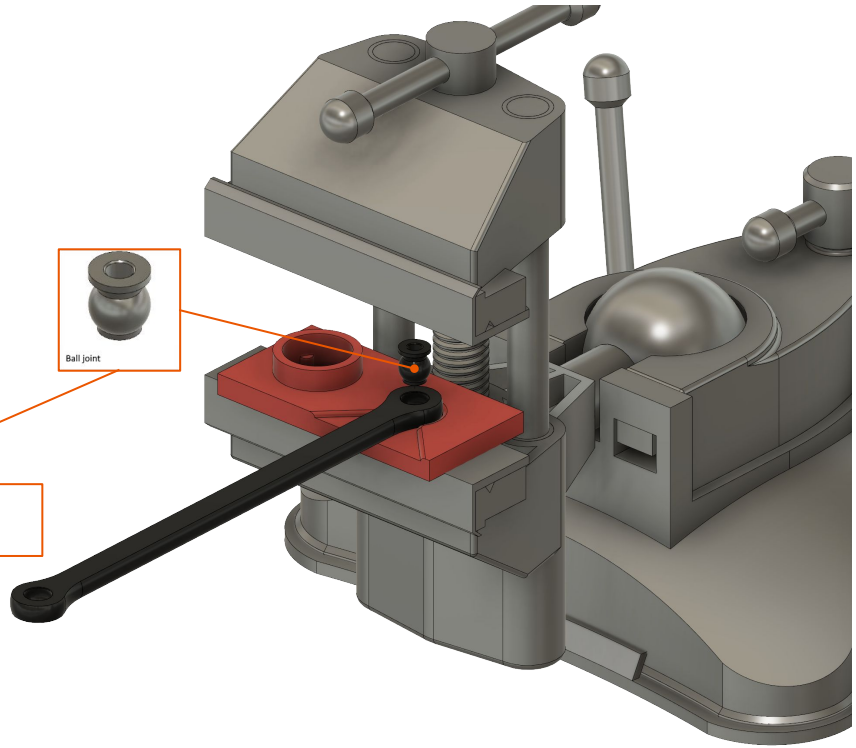
Be careful as you can break the arm if you use too much force!

Option B: use a Vise

This is a prefered method as you can proceed slowly.



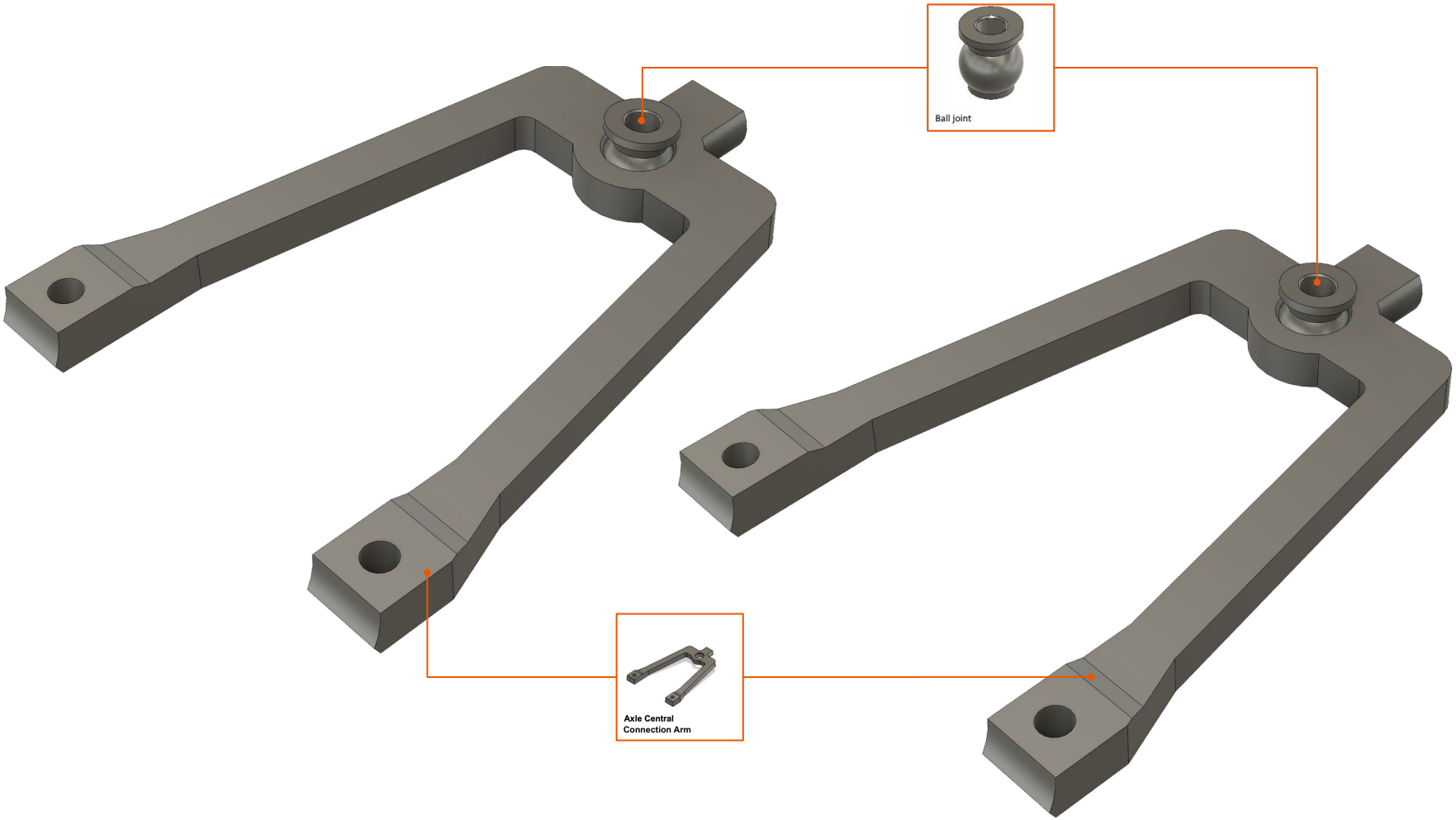
Apply grease on Ball joint.



See this step on YouTube video

Arms + ball joints

On the pictures below are rendered final Rear Arms assemblies. Please note that some Rear Arms requires opposite Ball joint orientation!



Rescuer – Front Axle

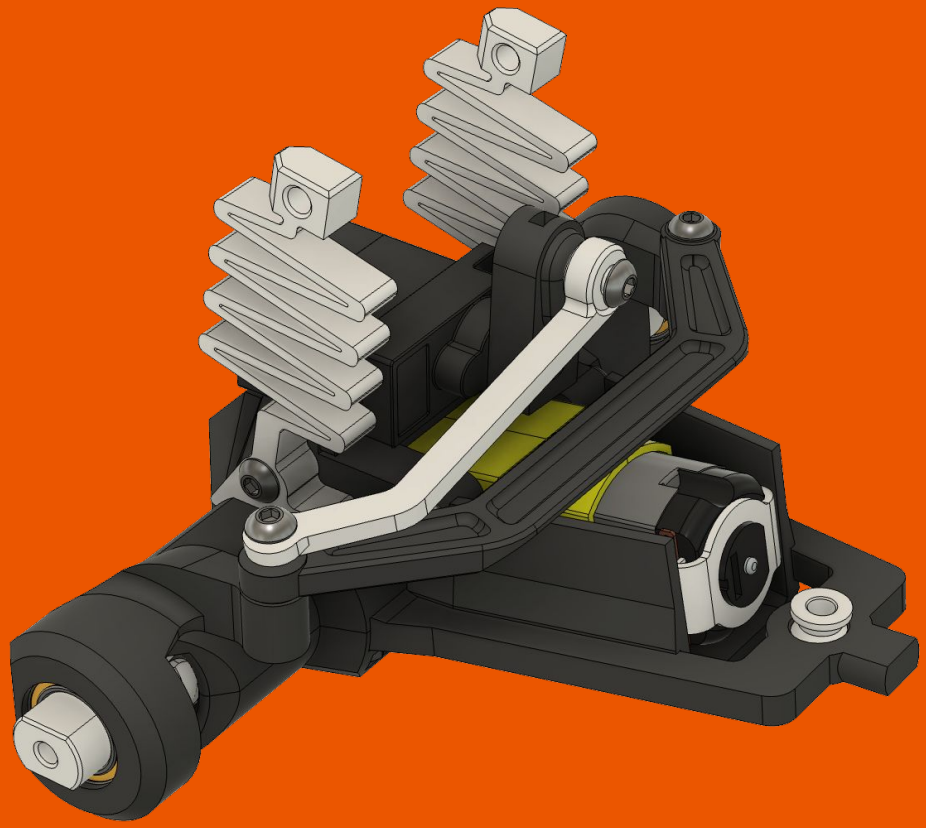
In this procedure you will assemble the front axle of the car.

Required print plates:

- "Print 25 - Front Axle"

Non-printed parts:

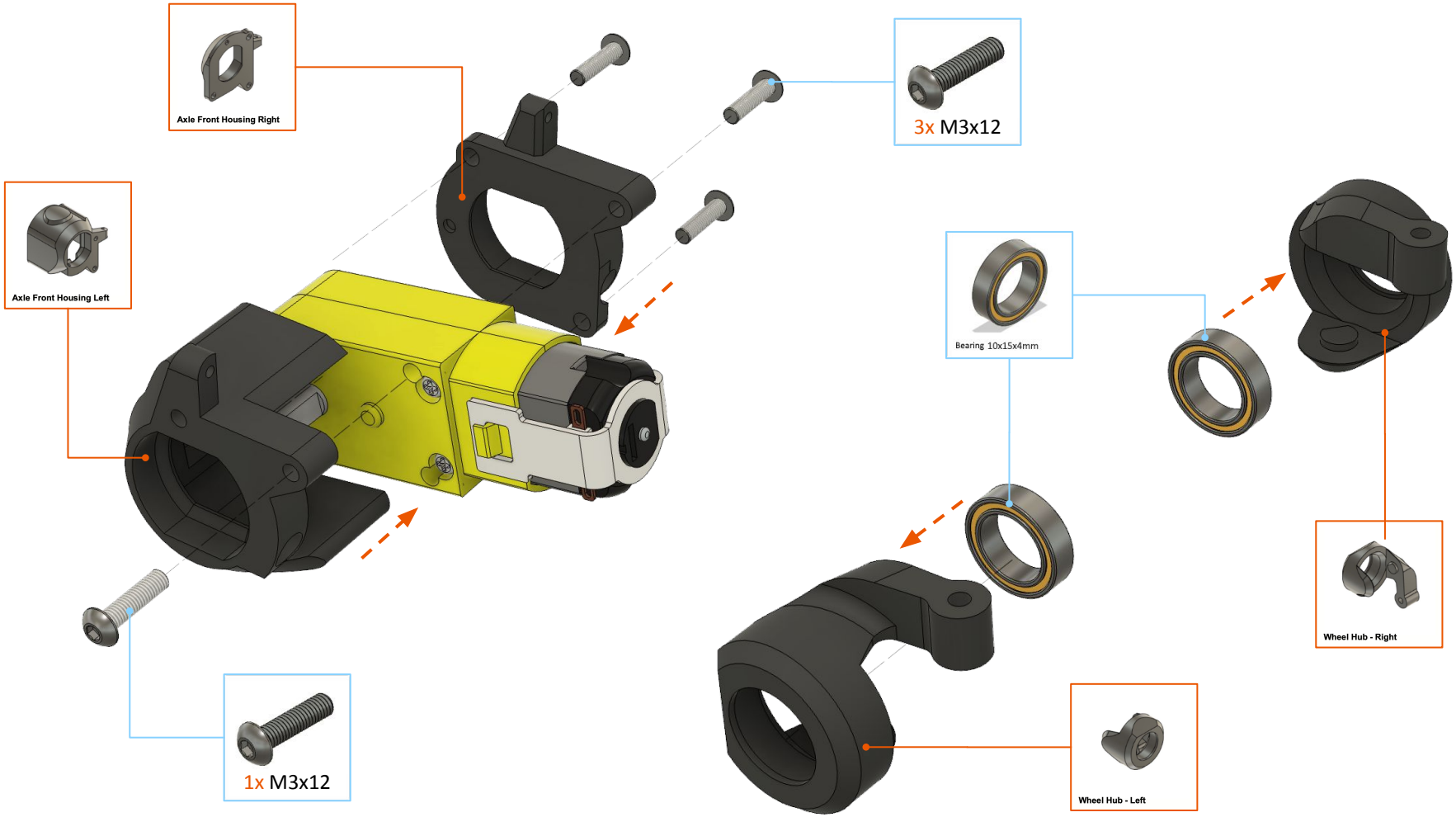
- Screw M3x6: 2 pcs.
- Screw M3x10: 3 pcs.
- Screw M3x12: 5 pcs.
- Screw M3x16: 3 pcs.
- Nut M3: 2 pcs.



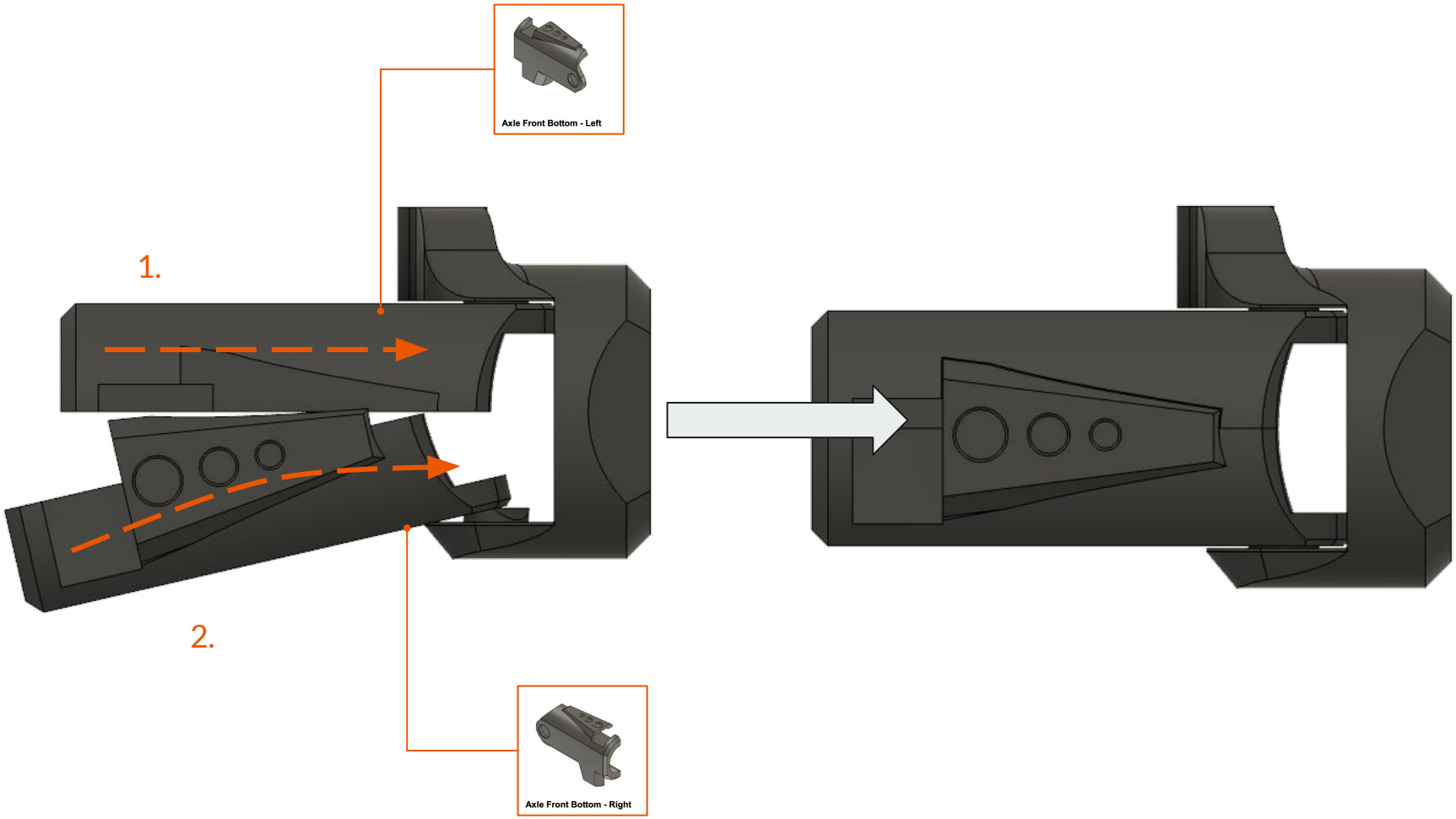
Postprocessing – removing supports

Before you start building, carefully remove printing supports (marked red) integrated to specific parts rendered below. You can use pliers and sharp knife to make the procedure easier. Be very careful as you can harm yourself!

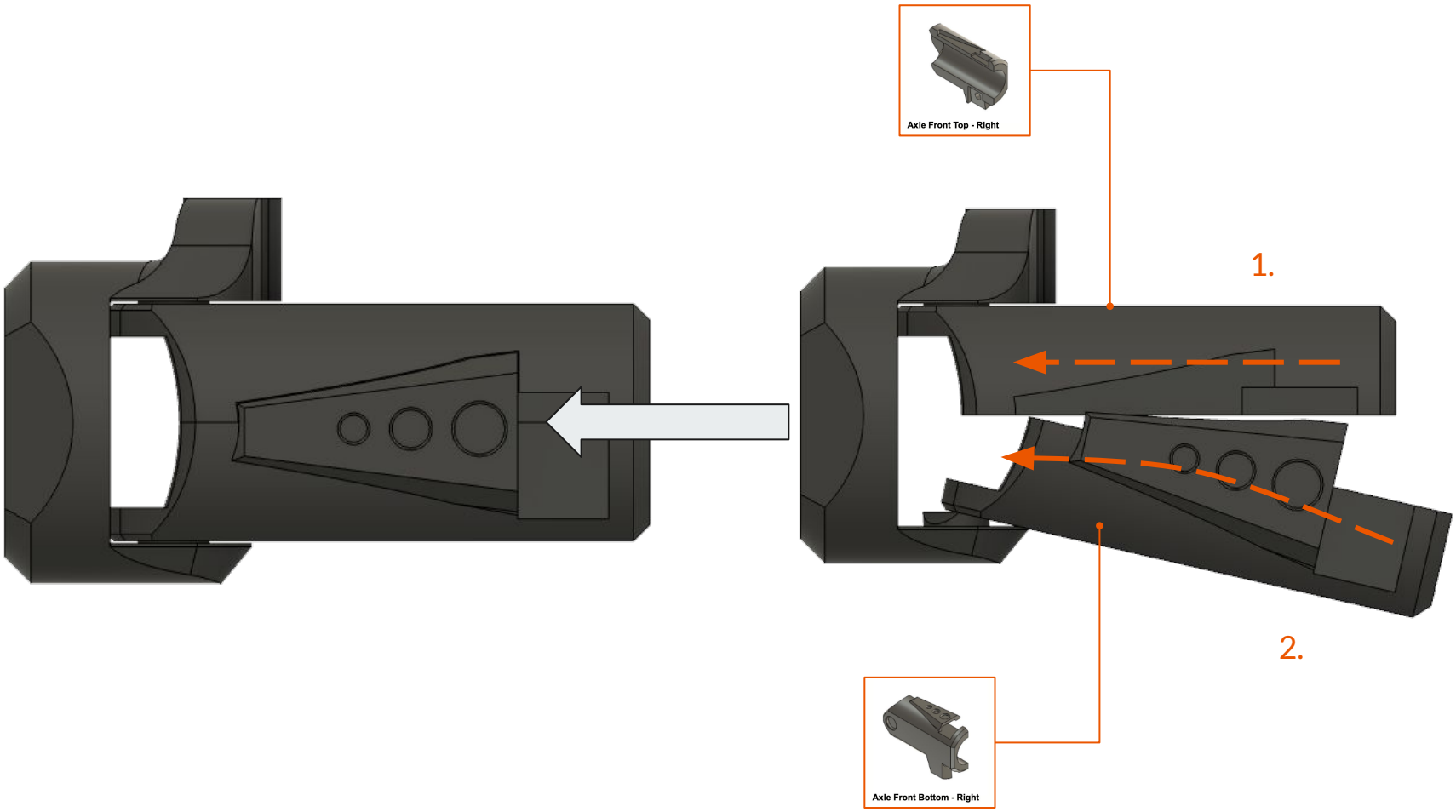
Front Axle – step 1-2/13



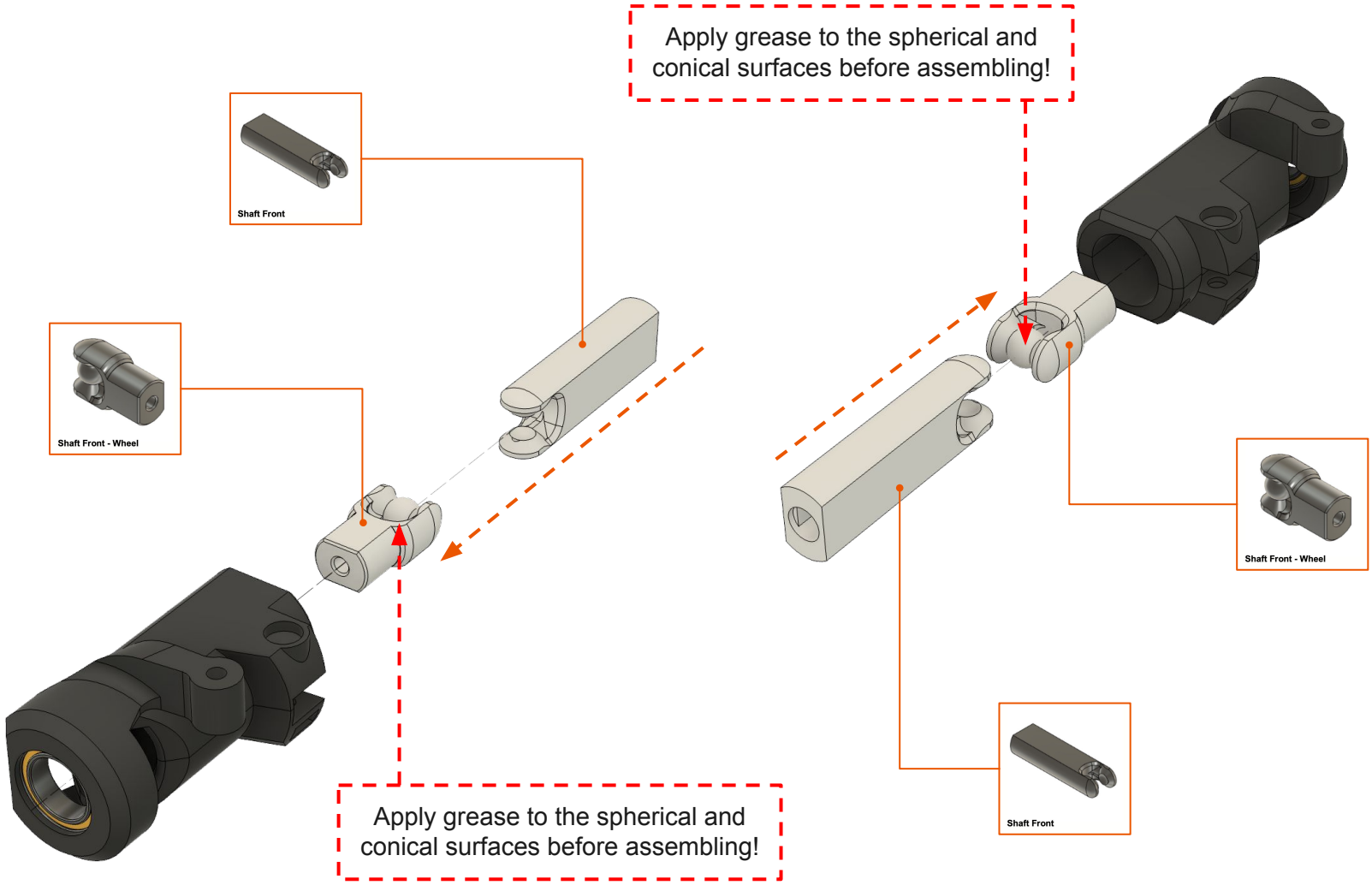
Front Axle – step 3/13



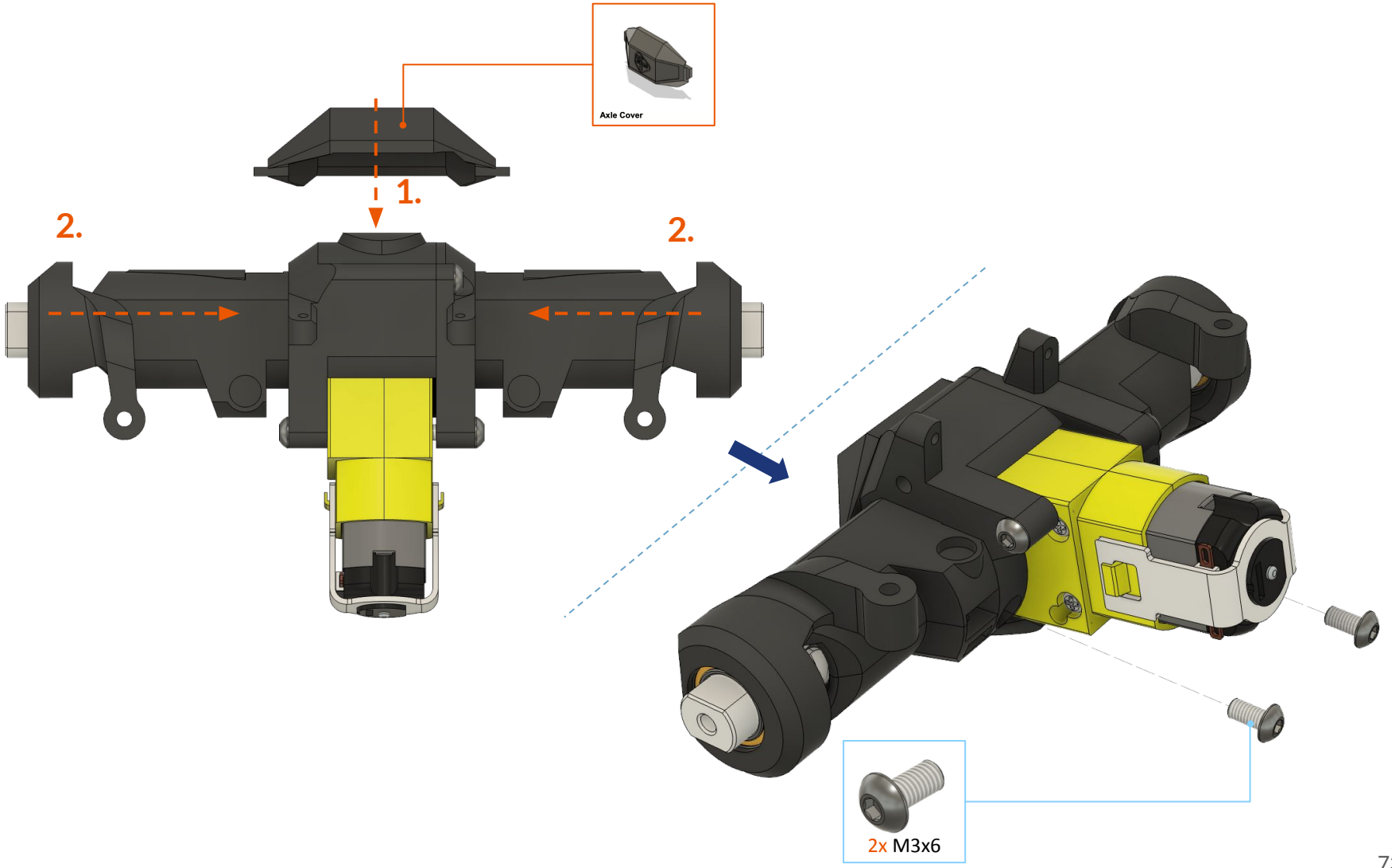
Front Axle – step 4/13



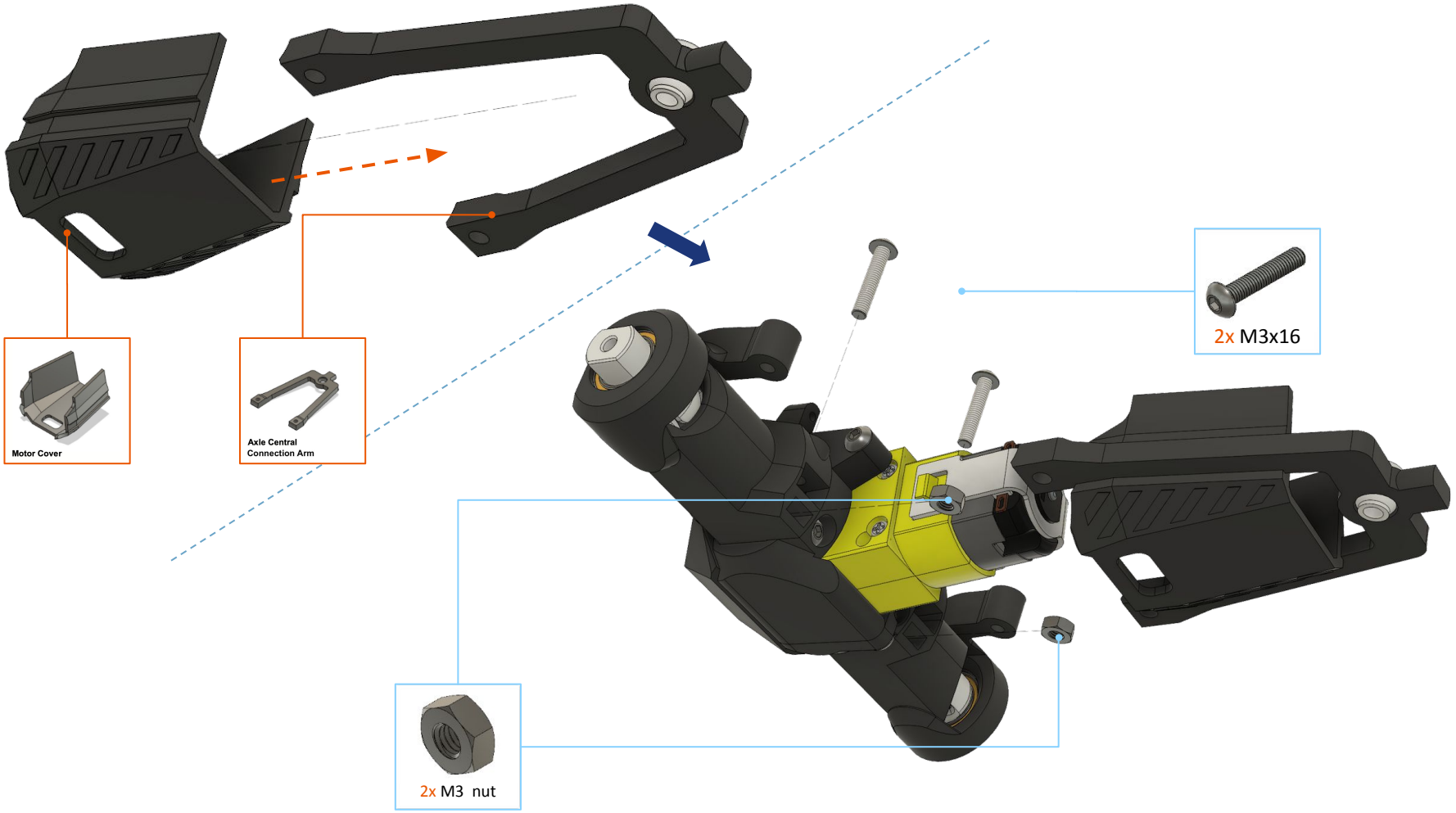
Front Axle – step 5/13



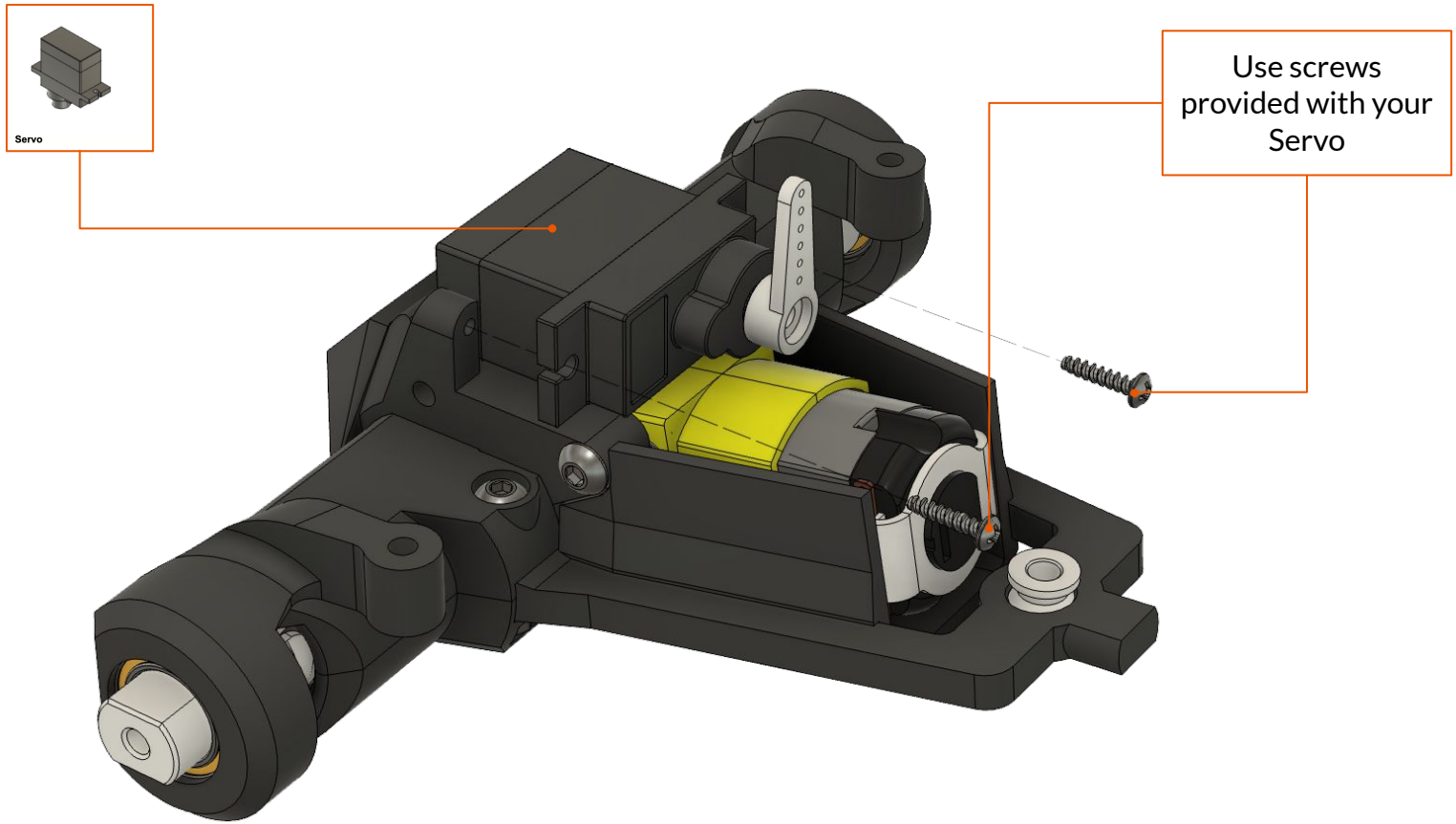
Front Axle – step 6-7/13



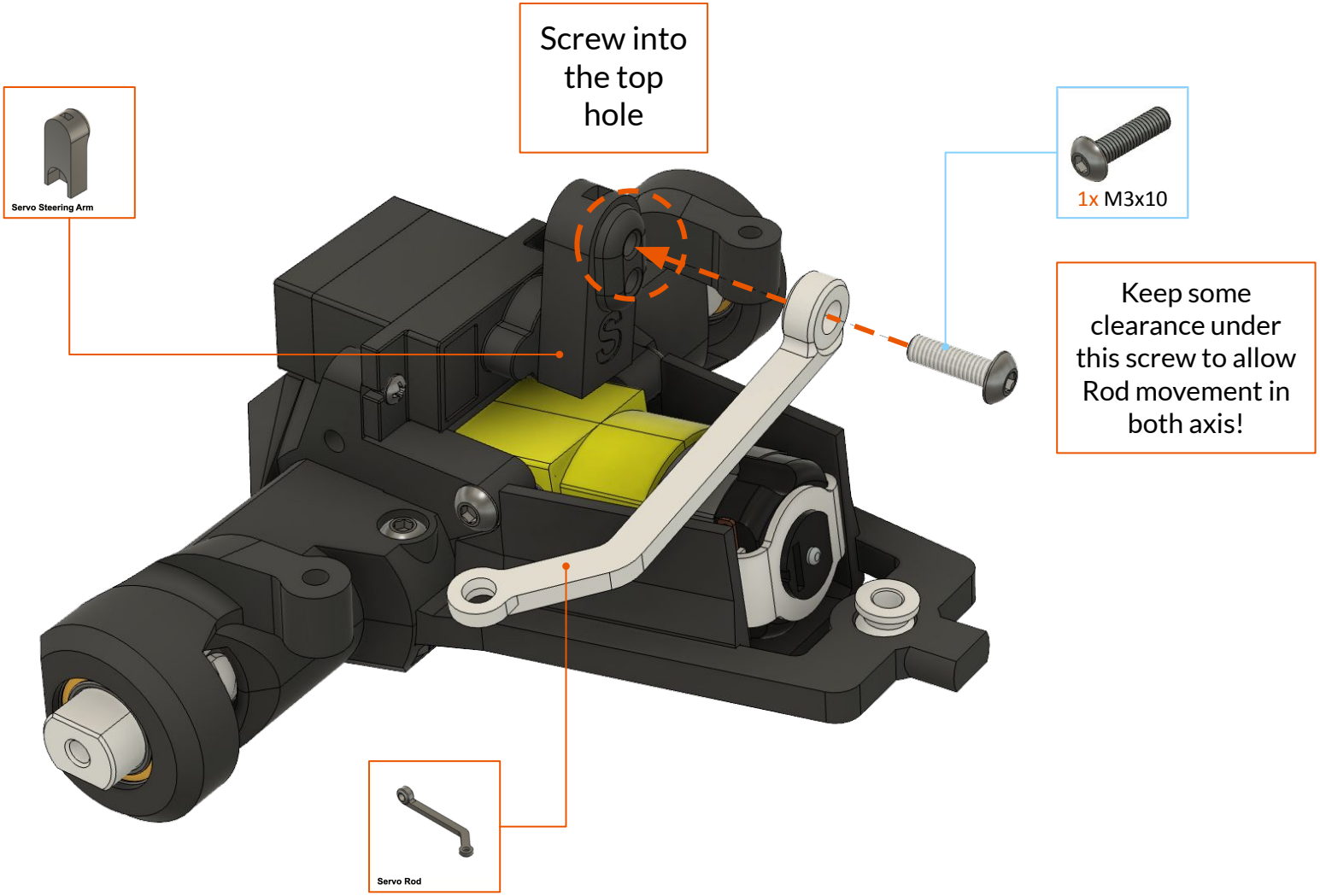
Front Axle – step 8-9/13



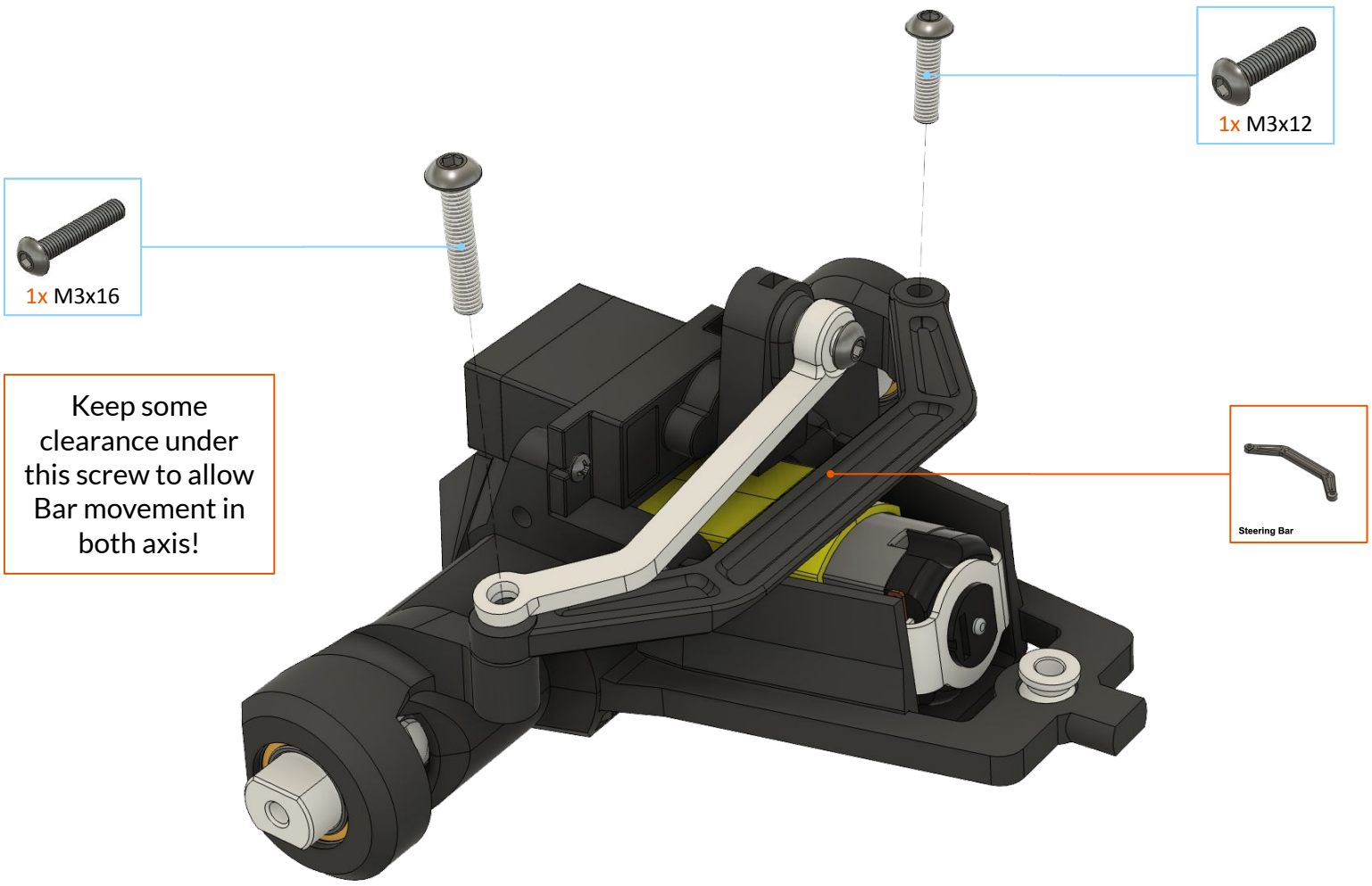
Front Axle – 10/13



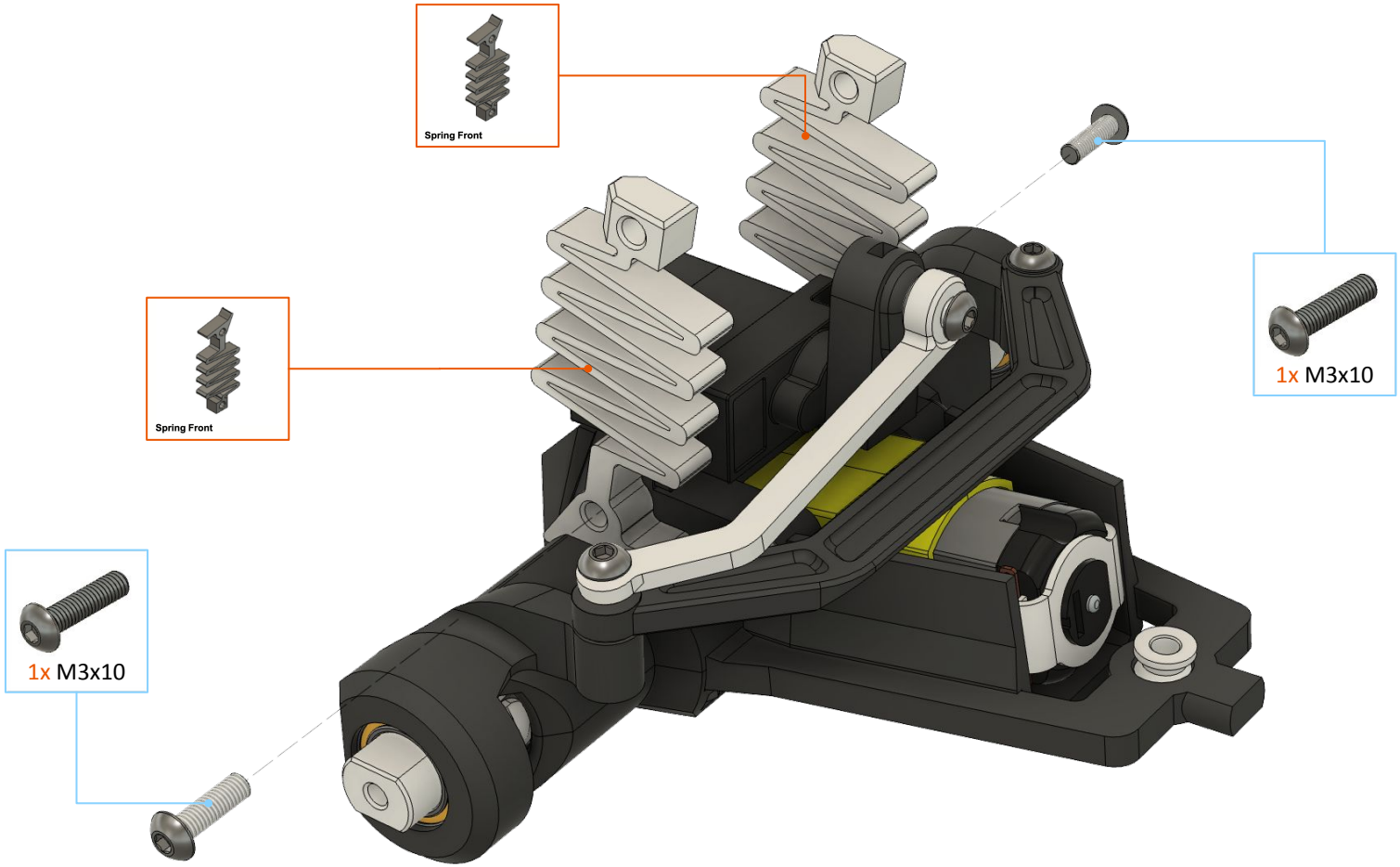
Front Axle – 11/13



Front Axle – 12/13



Front Axle – 13/13



Rescuer – Rear Axle choice

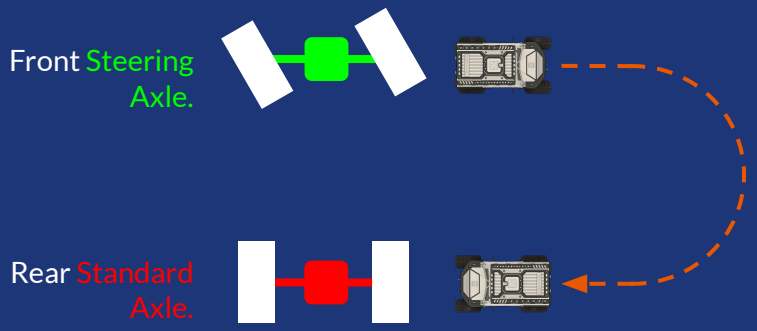
Standard Steering Mode: Front – *Steering Axle*, Rear – *Standard Rear Axle*
Crawler Steering Mode: Front – *Steering Axle*, Rear – *Steering Axle*

Standard Steering Mode:

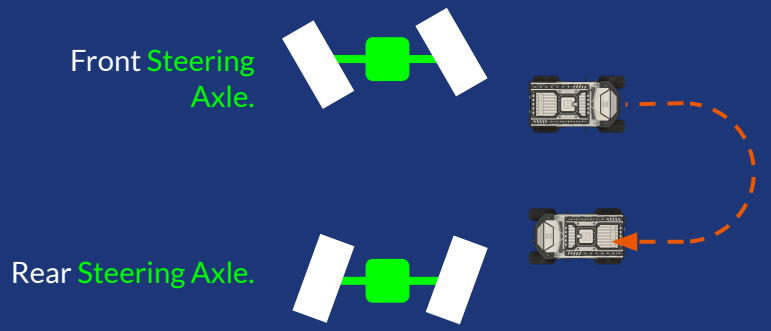
- Ideal for outdoor driving
- You need only 1 servo

Crawler Steering Mode:

- Ideal for indoor driving (better manoeuvrability)
- You need 2 servos
- You need Transmitter with “Crawler Mode” or “Channel Mix”
  – or –
- “Reverser Servo Cable” + standard “Y-Cable”



For Standard Steering Mode, proceed to next page (79).

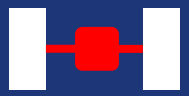


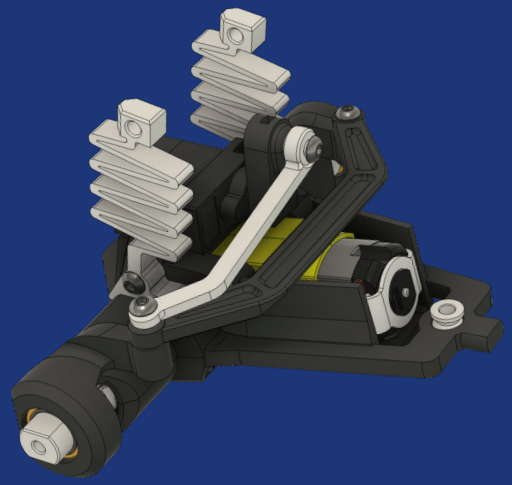
For Crawler Steering Mode, proceed to next page (90).

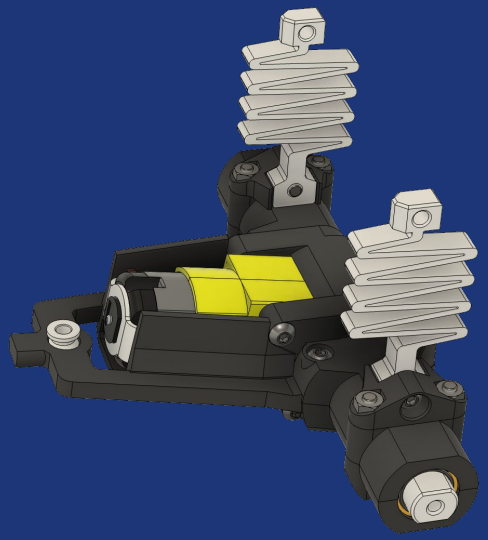
Standard Steering Mode

Front Steering Axle.

Rear Standard Axle.







Rescuer – Rear Axle

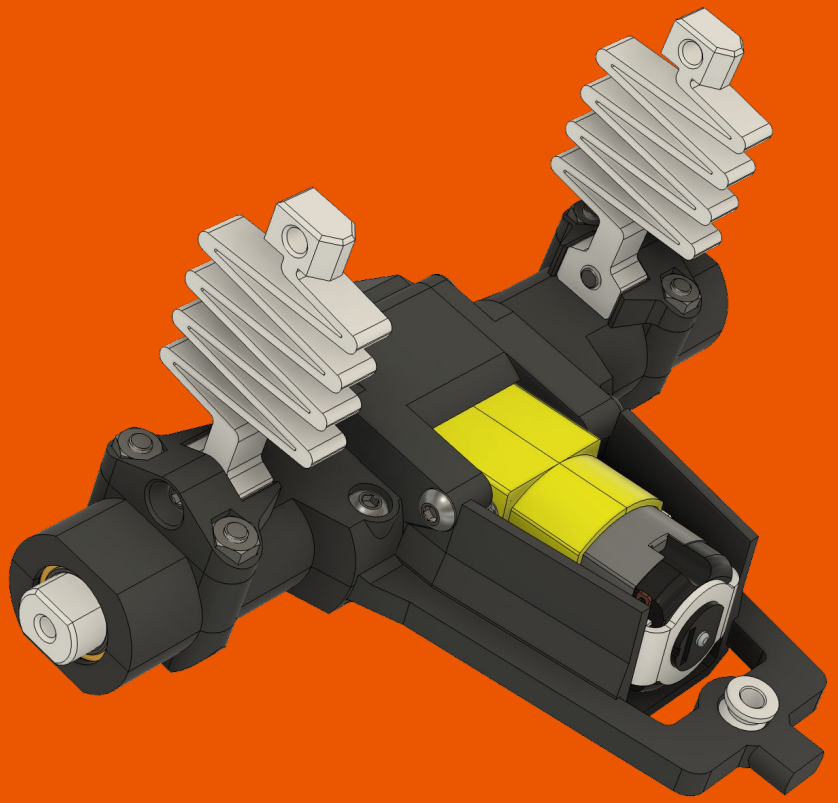
In this procedure you will assemble the rear axle of the car.

Required print plates:

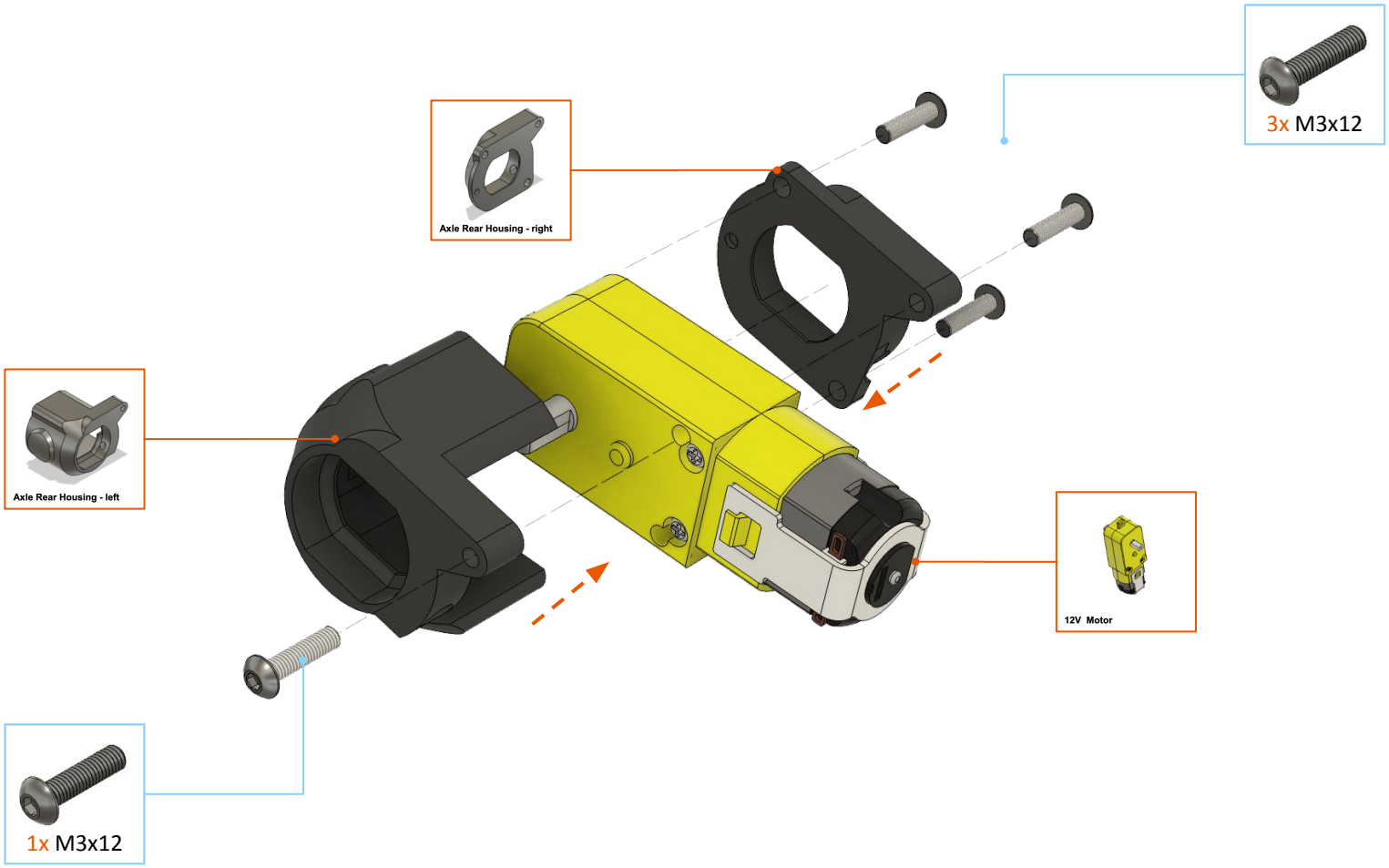
- "Print 26 - Rear Axle"

Non-printed parts:

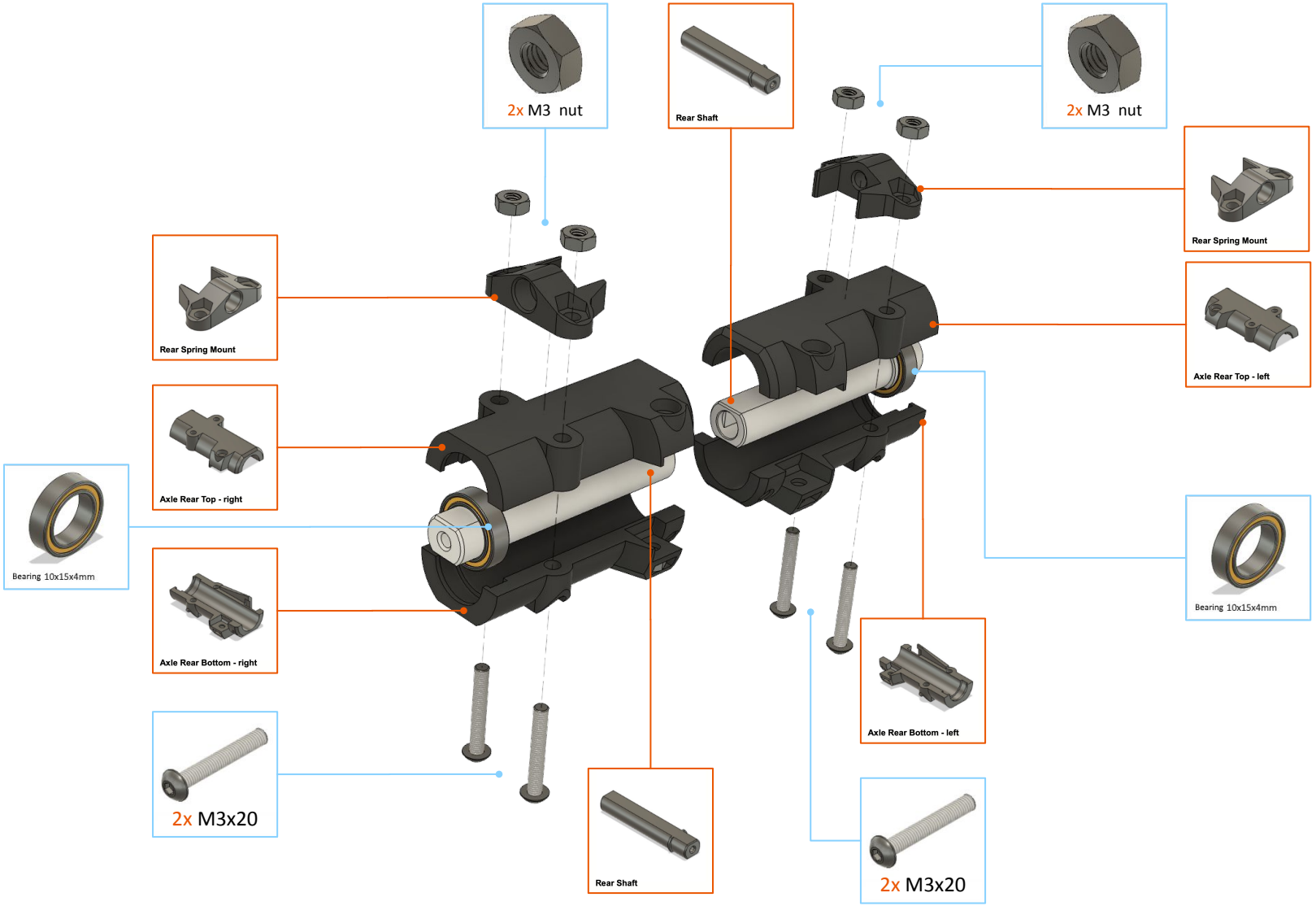
- Screw M3x6: 2 pcs.
- Screw M3x10: 2 pcs.
- Screw M3x12: 4 pcs.
- Screw M3x16: 2 pcs.
- Screw M3x20: 4 pcs.
- Nut M3: 6 pcs.



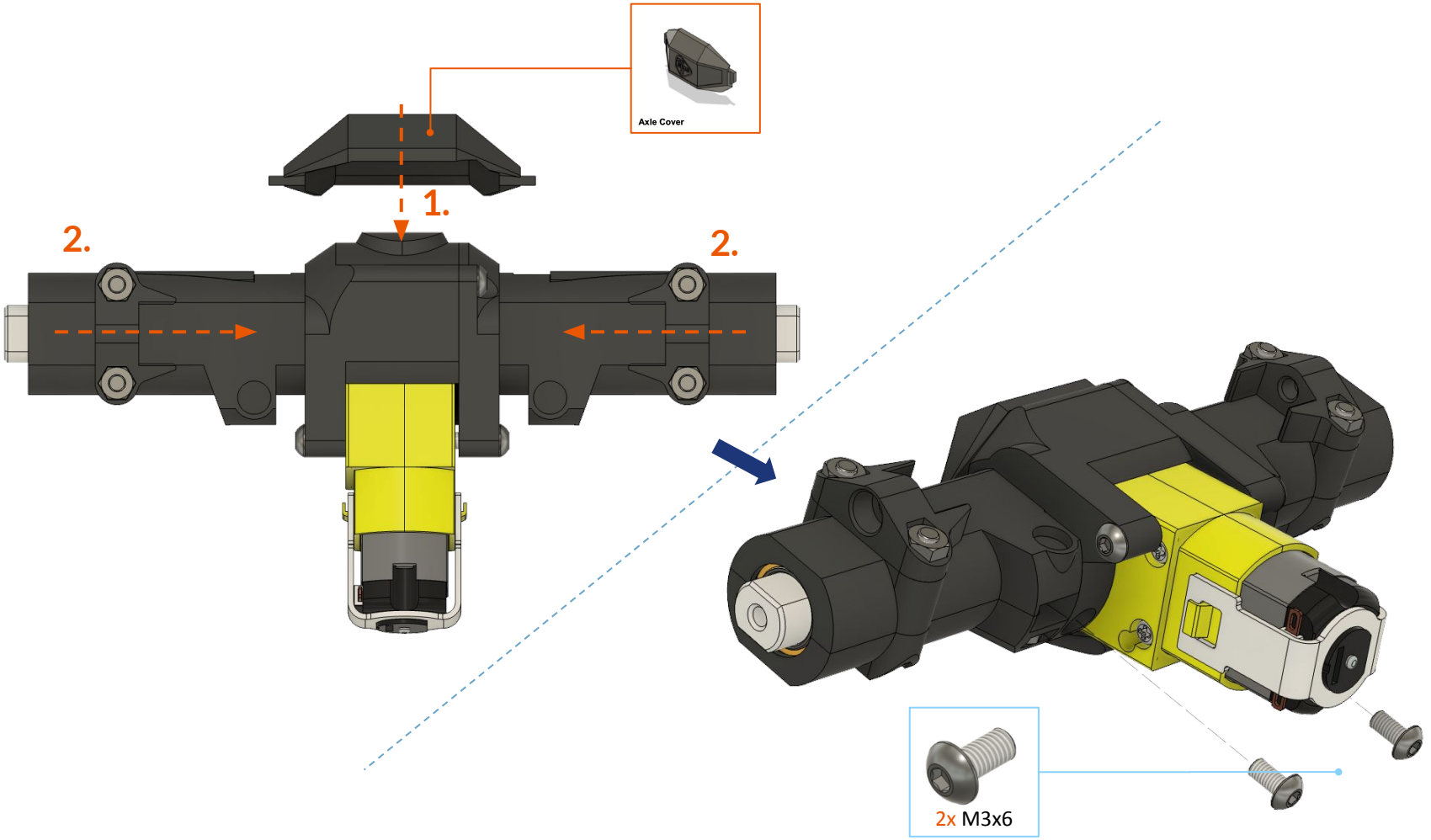
Rear Axle – step 1/5



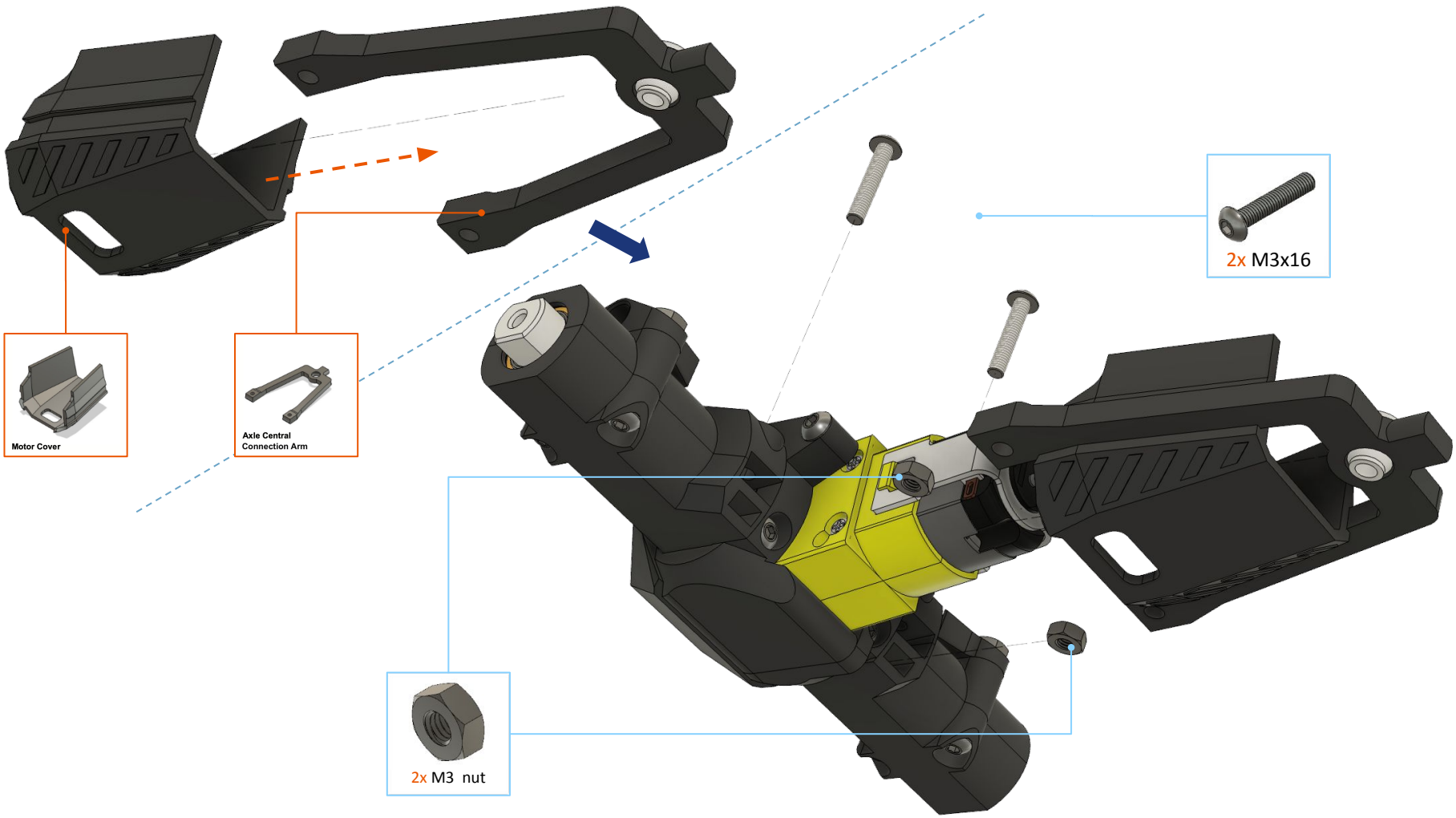
Rear Axle – step 2/5



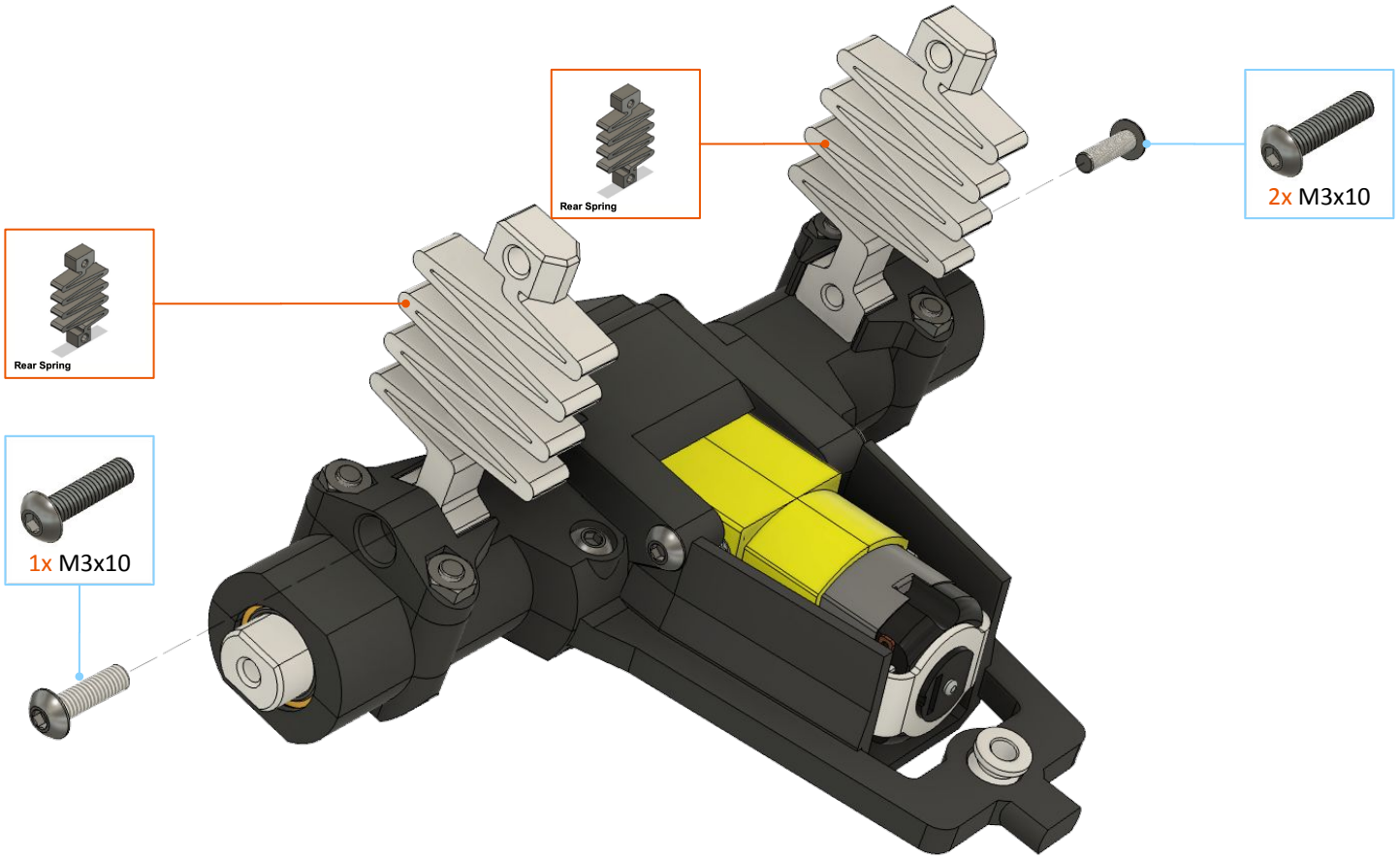
Rear Axle – step 3/5



Rear Axle – step 4/5



Rear Axle – step 5/5



Rescuer – Install Axles

In this procedure you will install the axles into the body.

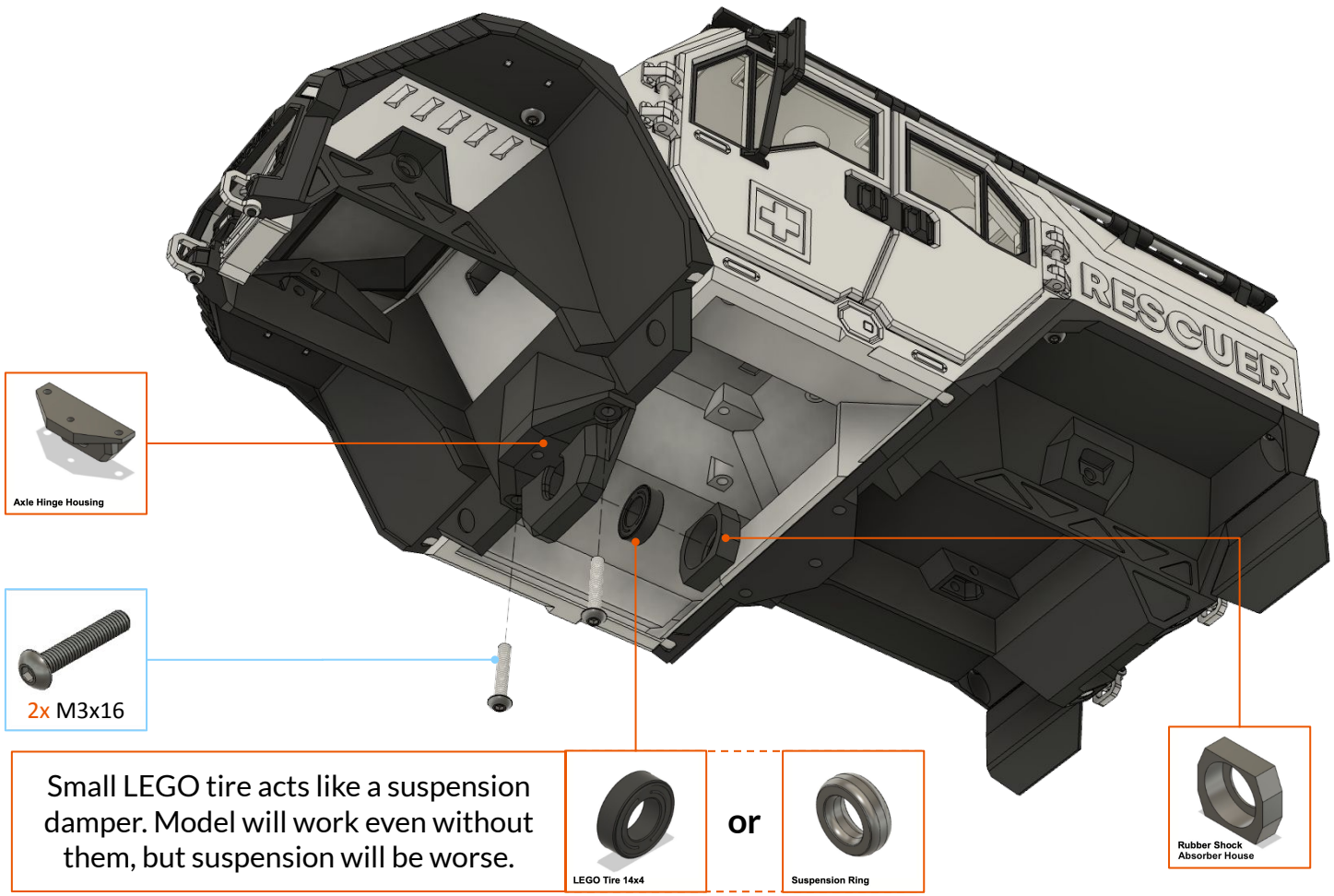
Required print plates:

- "Print 25 - Front Axle"
- "Print 26 - Rear Axle"

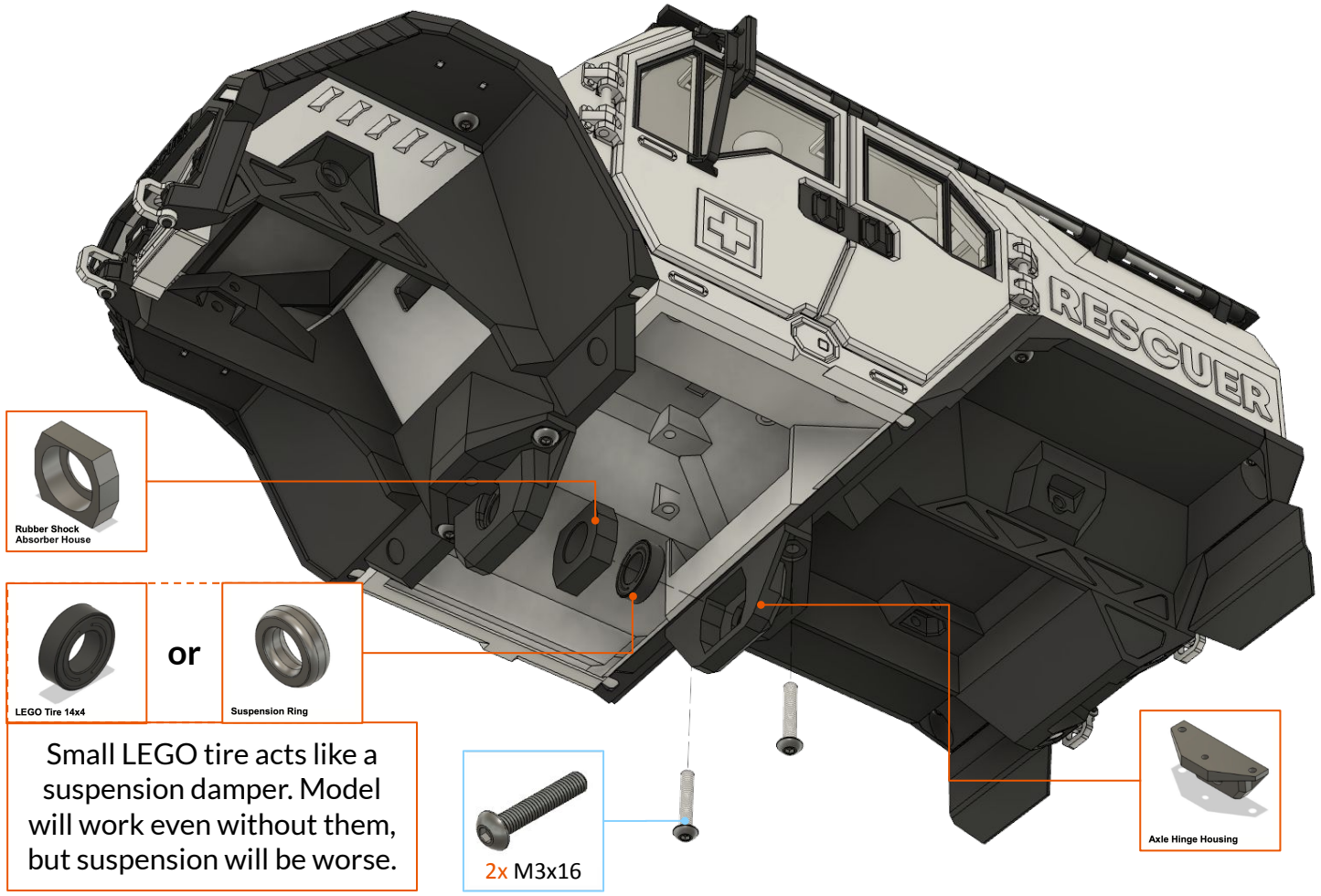
Non-printed parts:

- Screw M3x10: 4 pcs.
- Screw M3x16: 4 pcs.
- Screw M3x20: 2 pcs.
- LEGO Tire 14x4mm (Item No: 3139): 2 pcs.

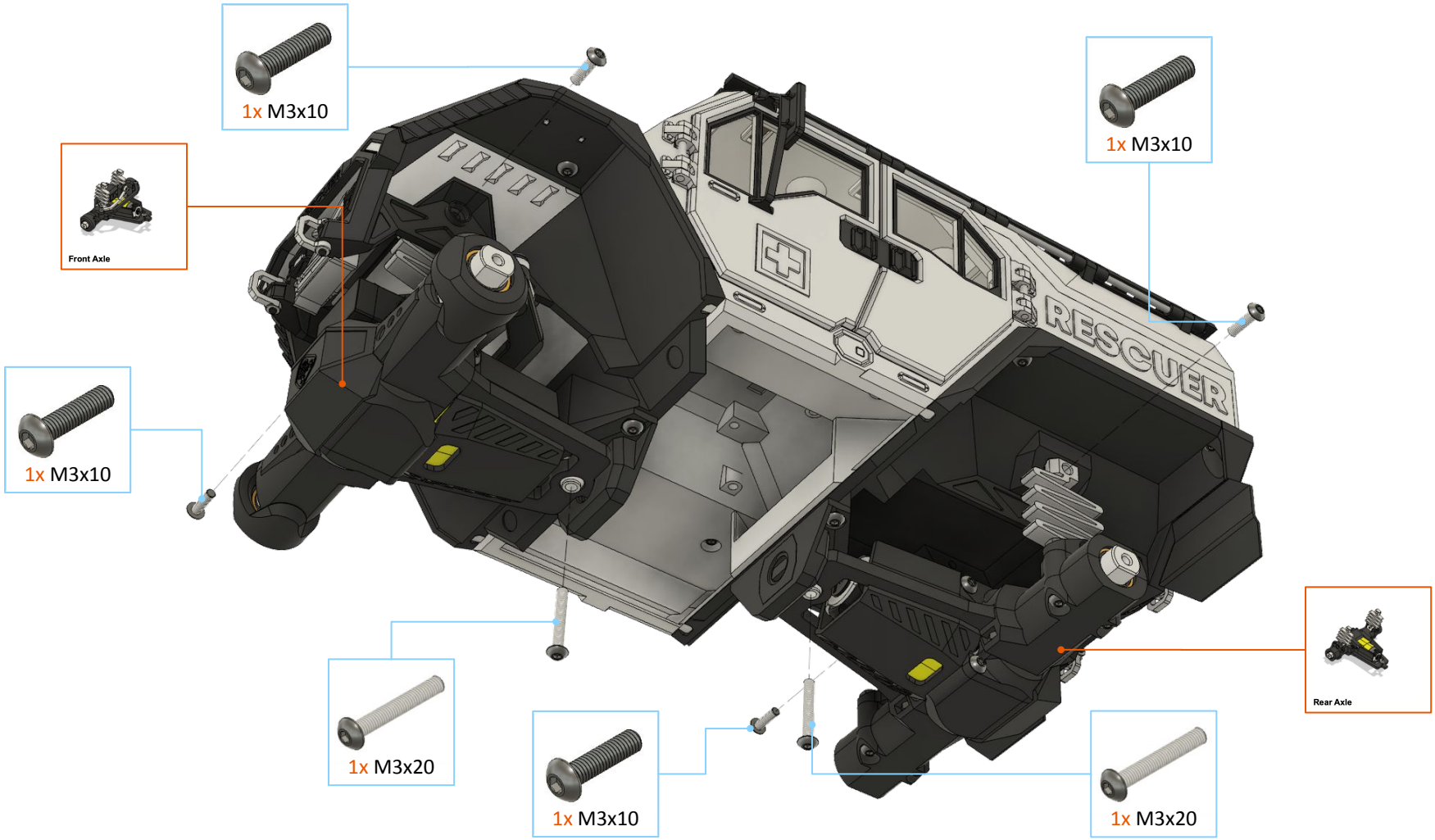
Install Axles – step 1/3



Install Axles – step 1/3

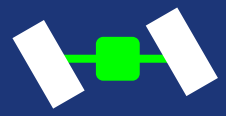


Install Axles – step 3/3



Crawler Steering Mode

Front Steering Axle.



Rear Steering Axle.

Rescuer – Rear Steering Axle

In this procedure you will assemble the front axle of the car.

Required print plates:

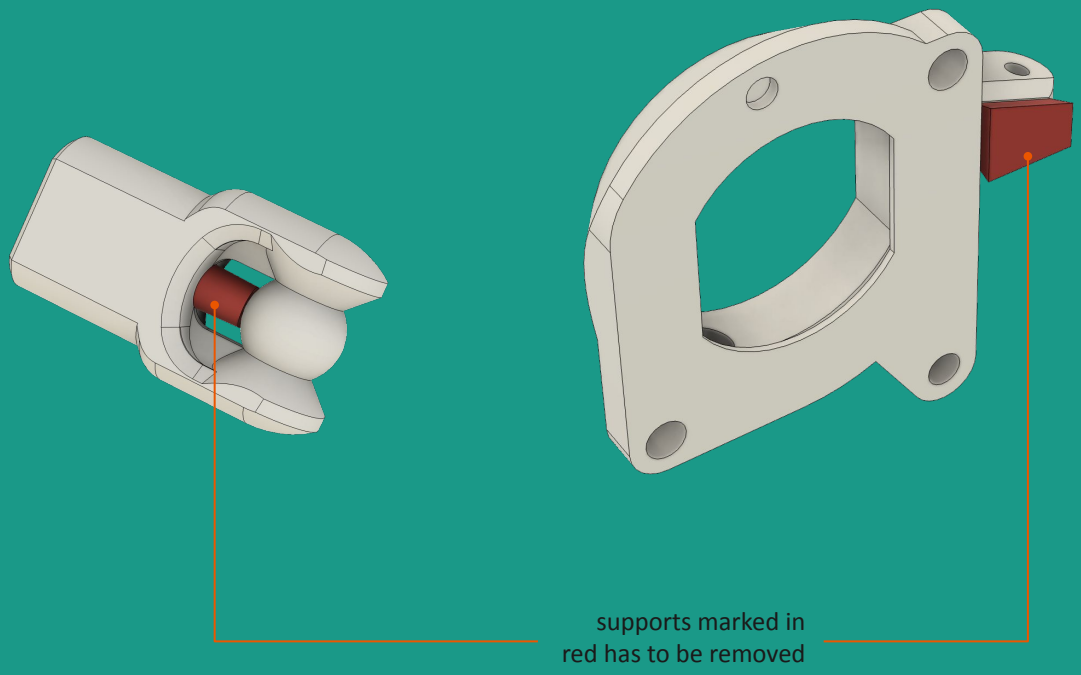
- "Print 25 - Front Axle" - print 2x
- ~~“Print 26 - Rear Axle”~~ - do not print!

Non-printed parts:

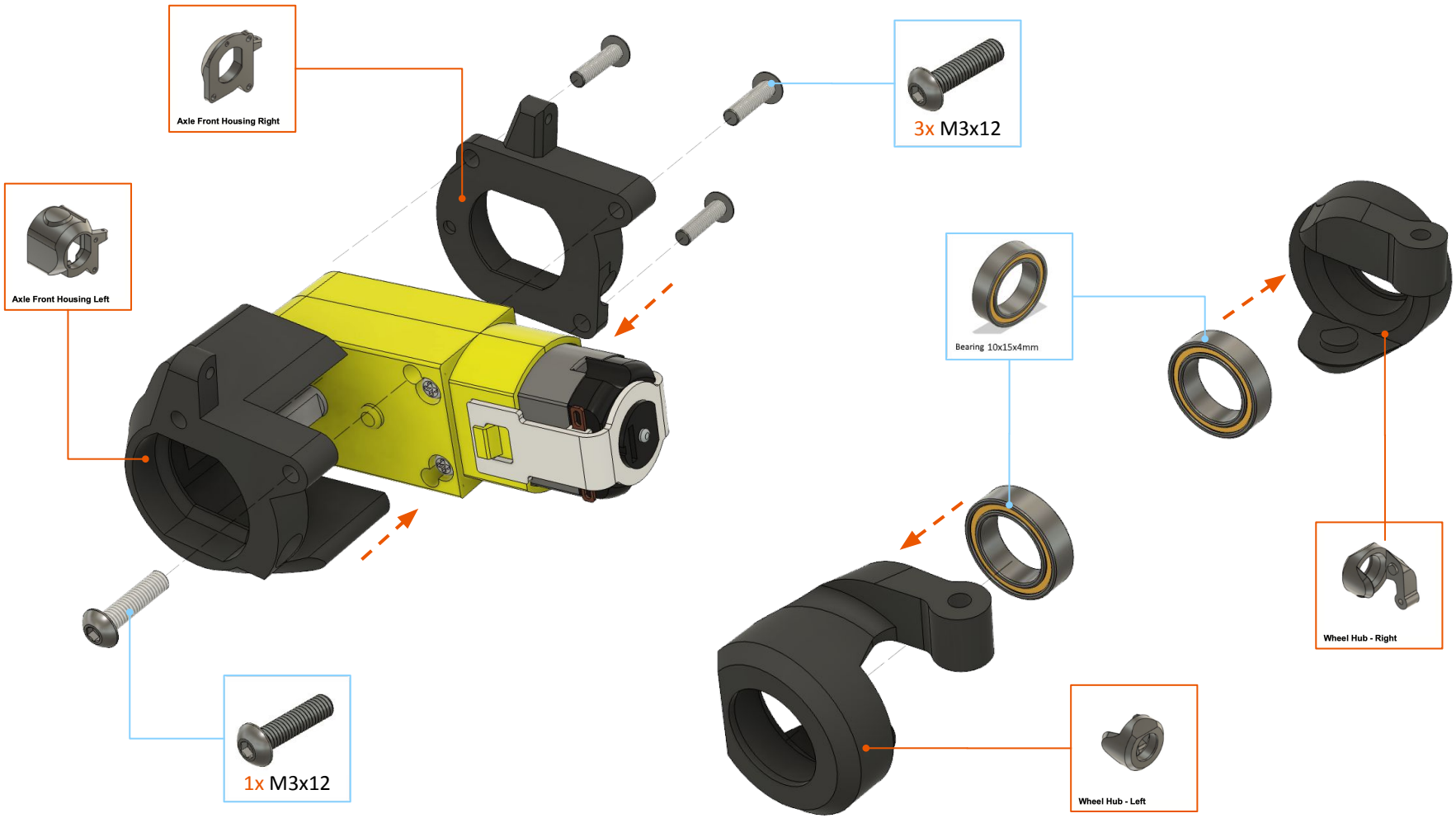
- Screw M3x6: 2 pcs.
- Screw M3x10: 3 pcs.
- Screw M3x12: 5 pcs.
- Screw M3x16: 3 pcs.
- Nut M3: 2 pcs.

Postprocessing – removing supports

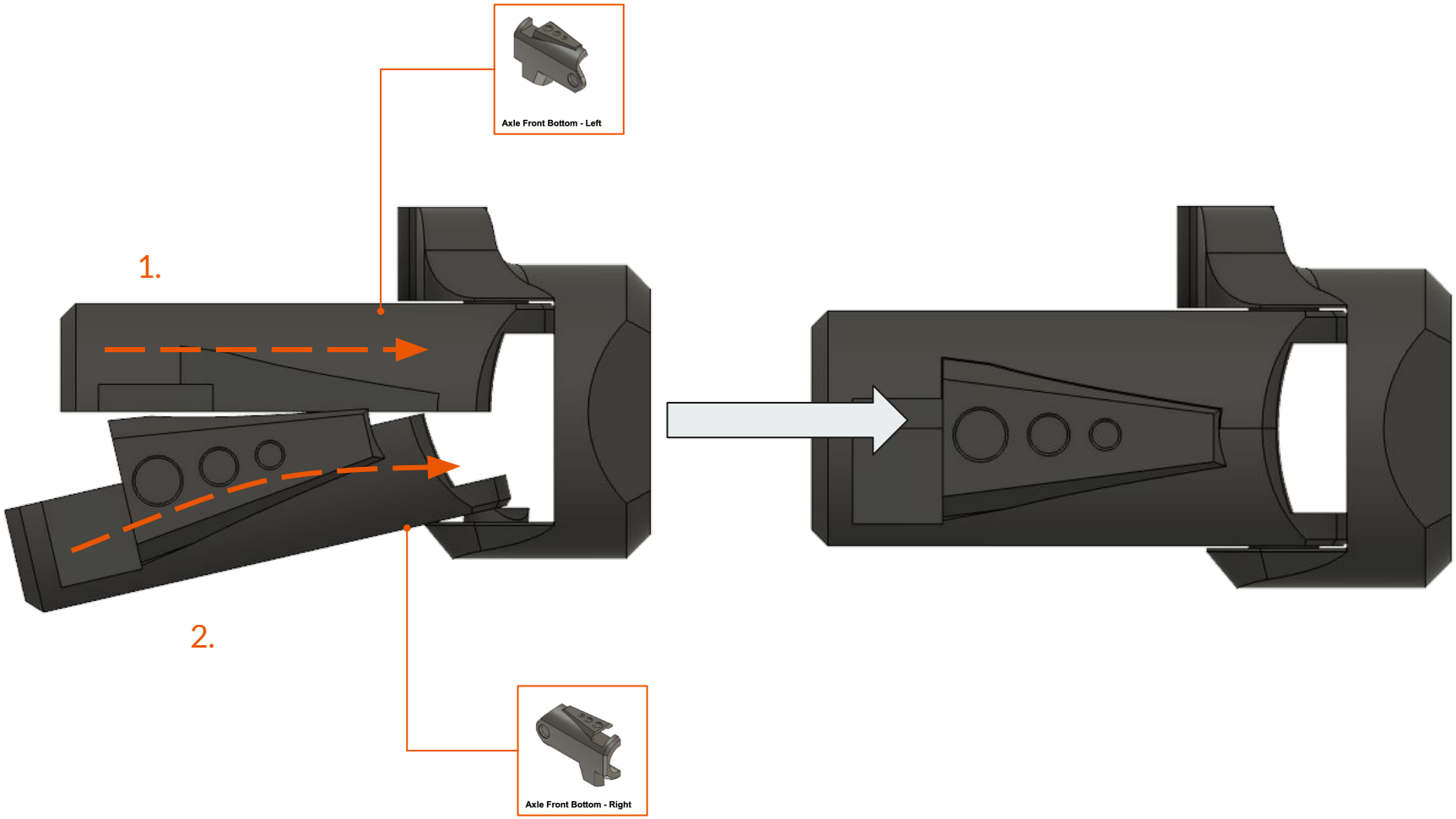
Before you start building, carefully remove printing supports (marked red) integrated to specific parts rendered below. You can use pliers and sharp knife to make the procedure easier. Be very careful as you can harm yourself!



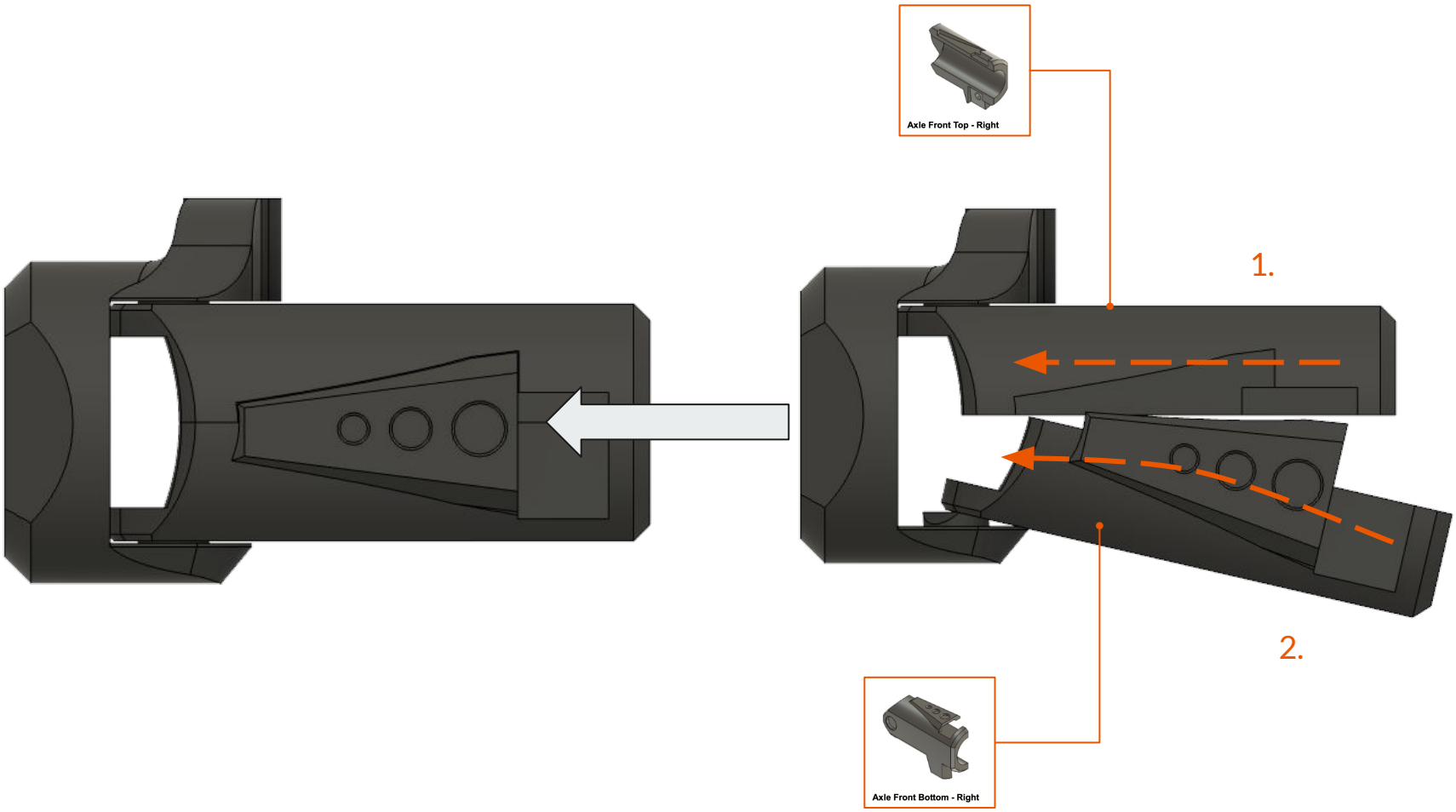
Rear Steering Axle – step 1-2/13



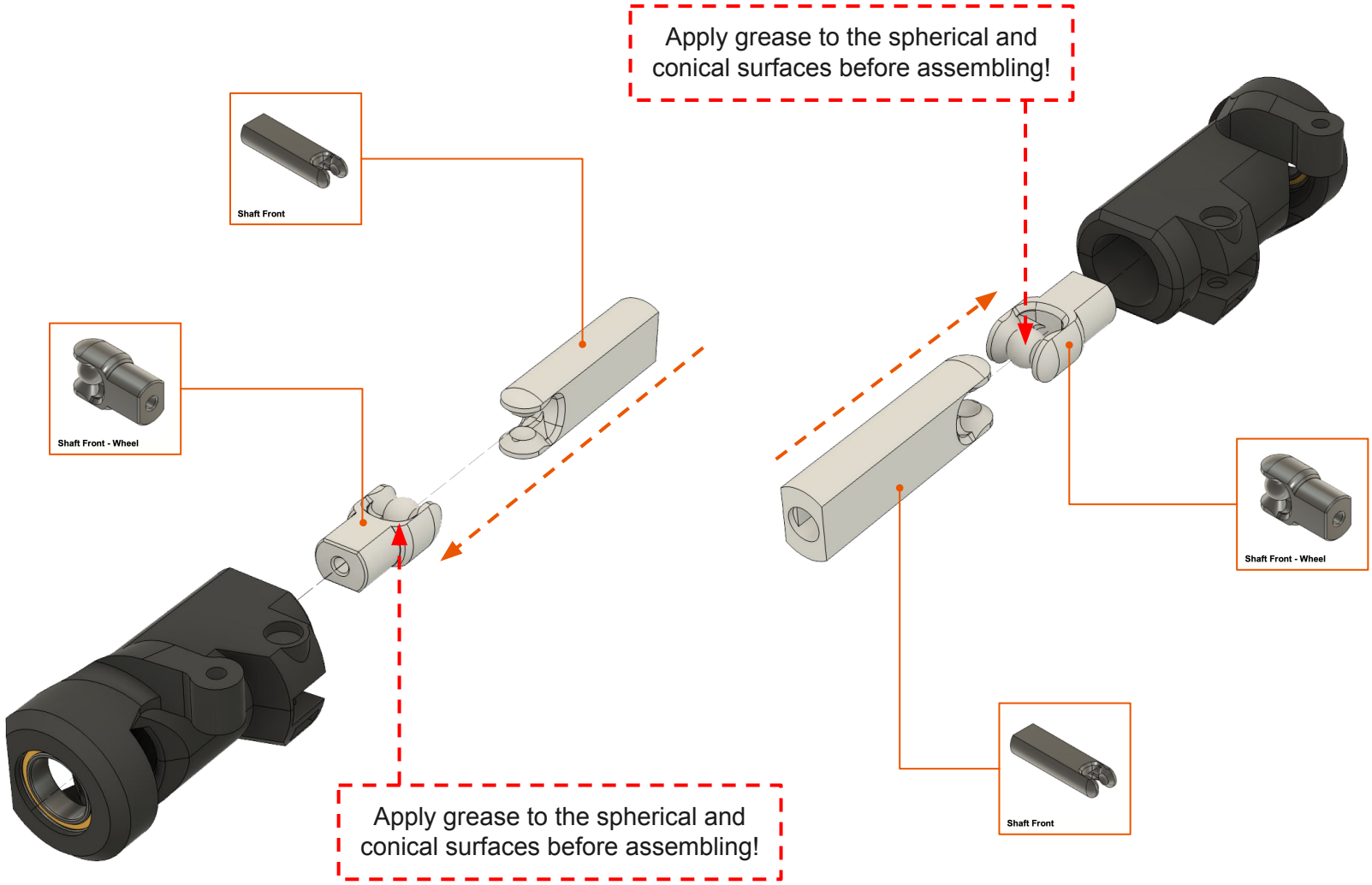
Rear Steering Axle – step 3/13



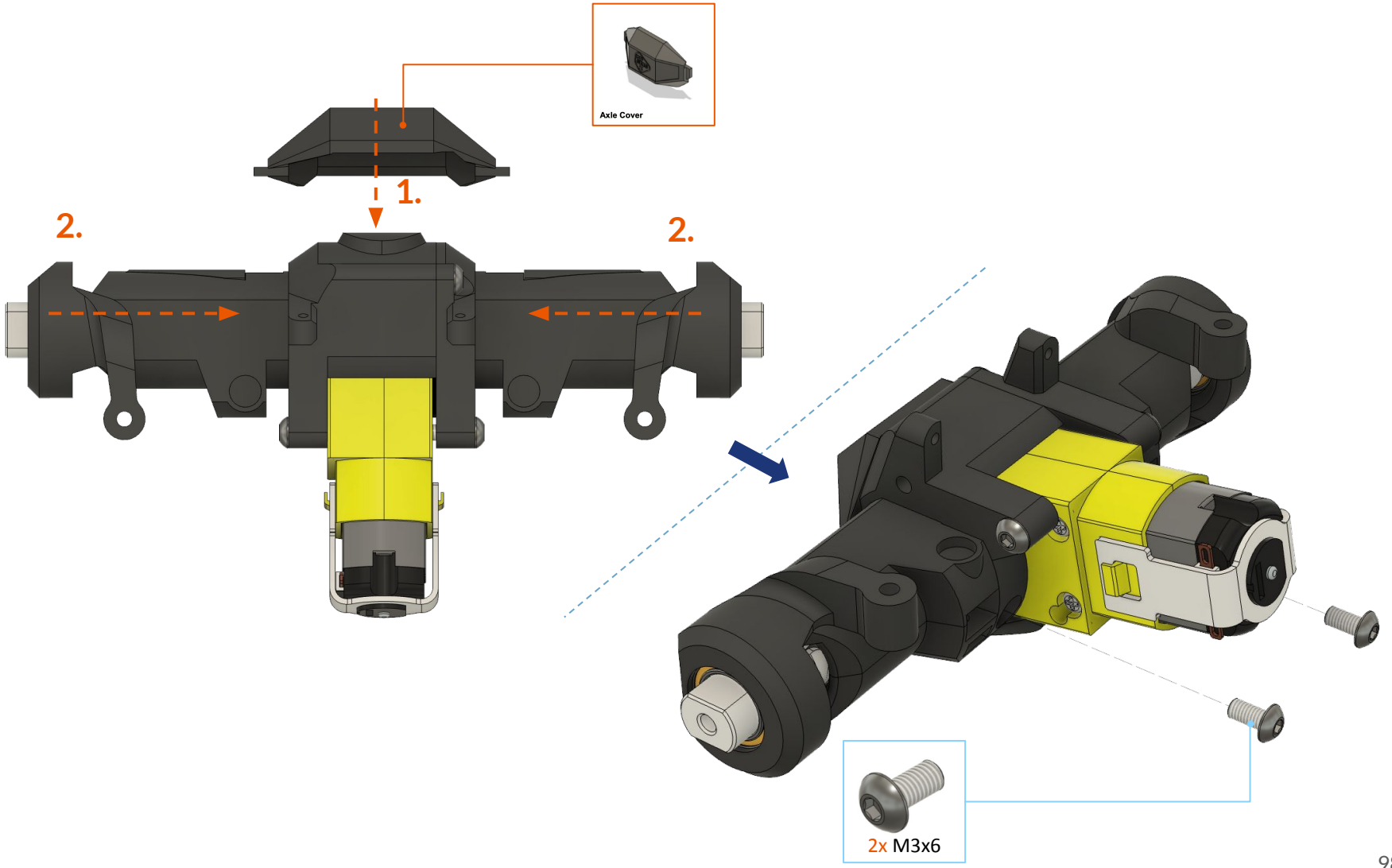
Rear Steering Axle – step 4/13



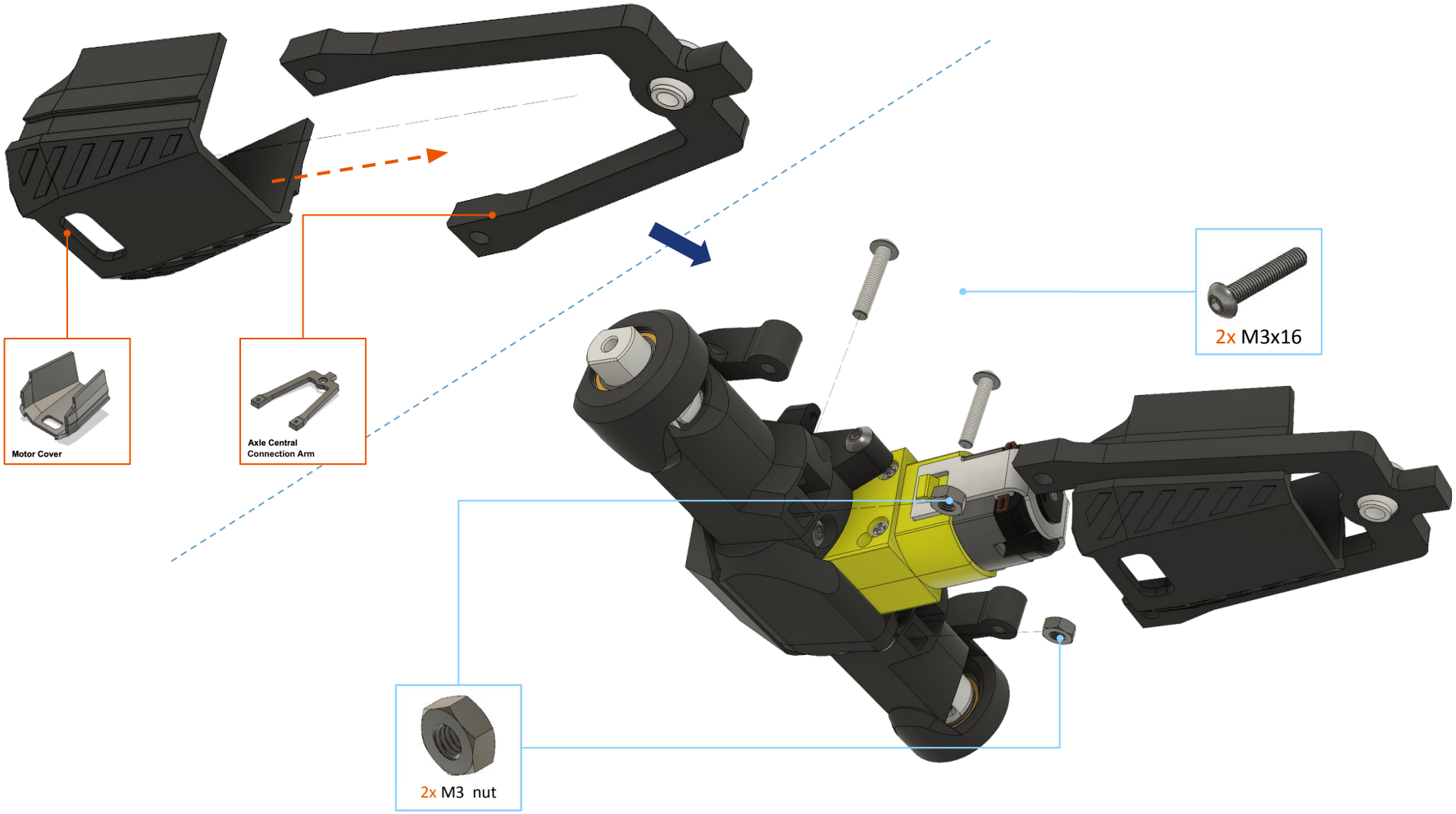
Rear Steering Axle – step 5/13



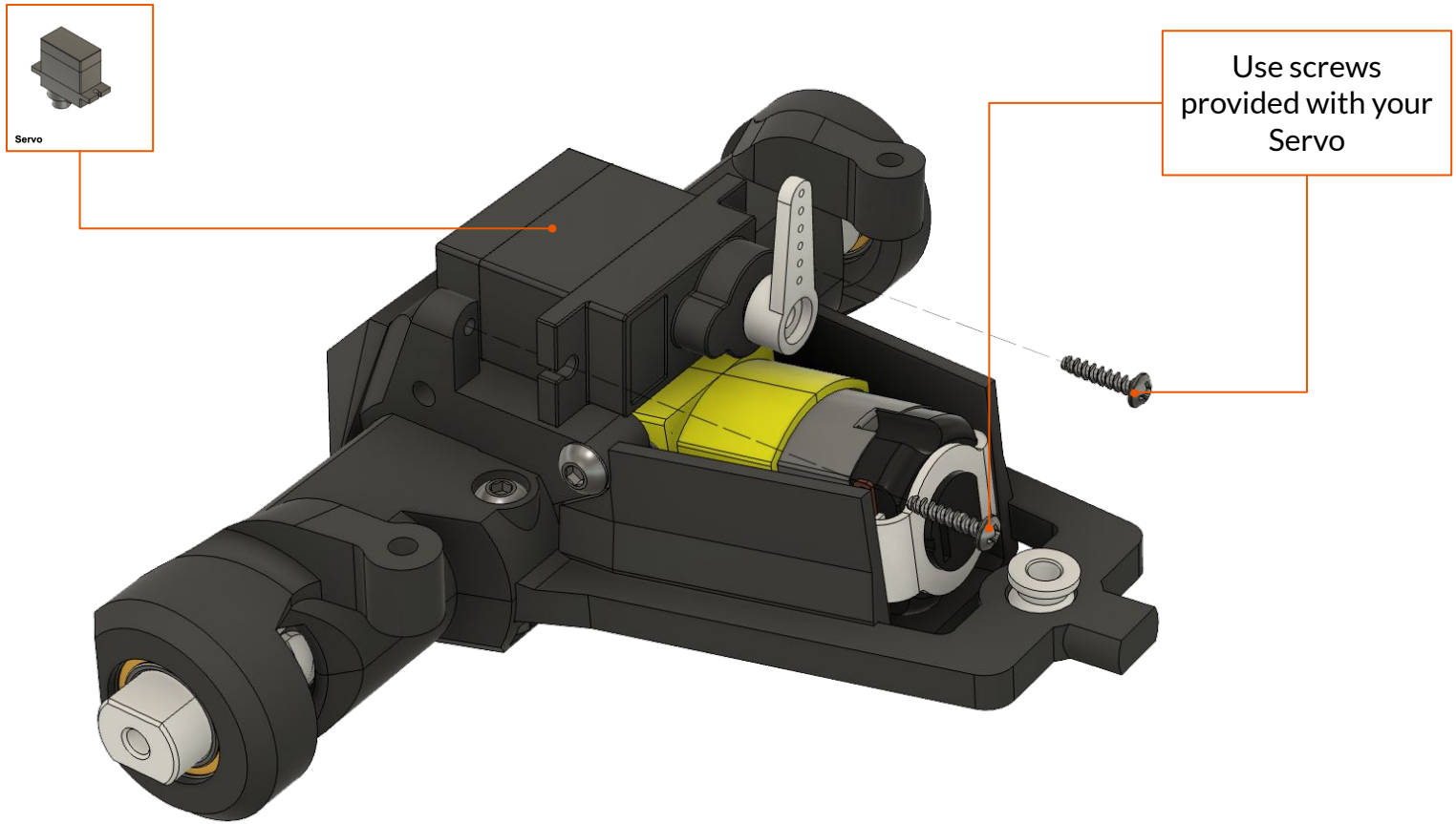
Rear Steering Axle – step 6-7/13



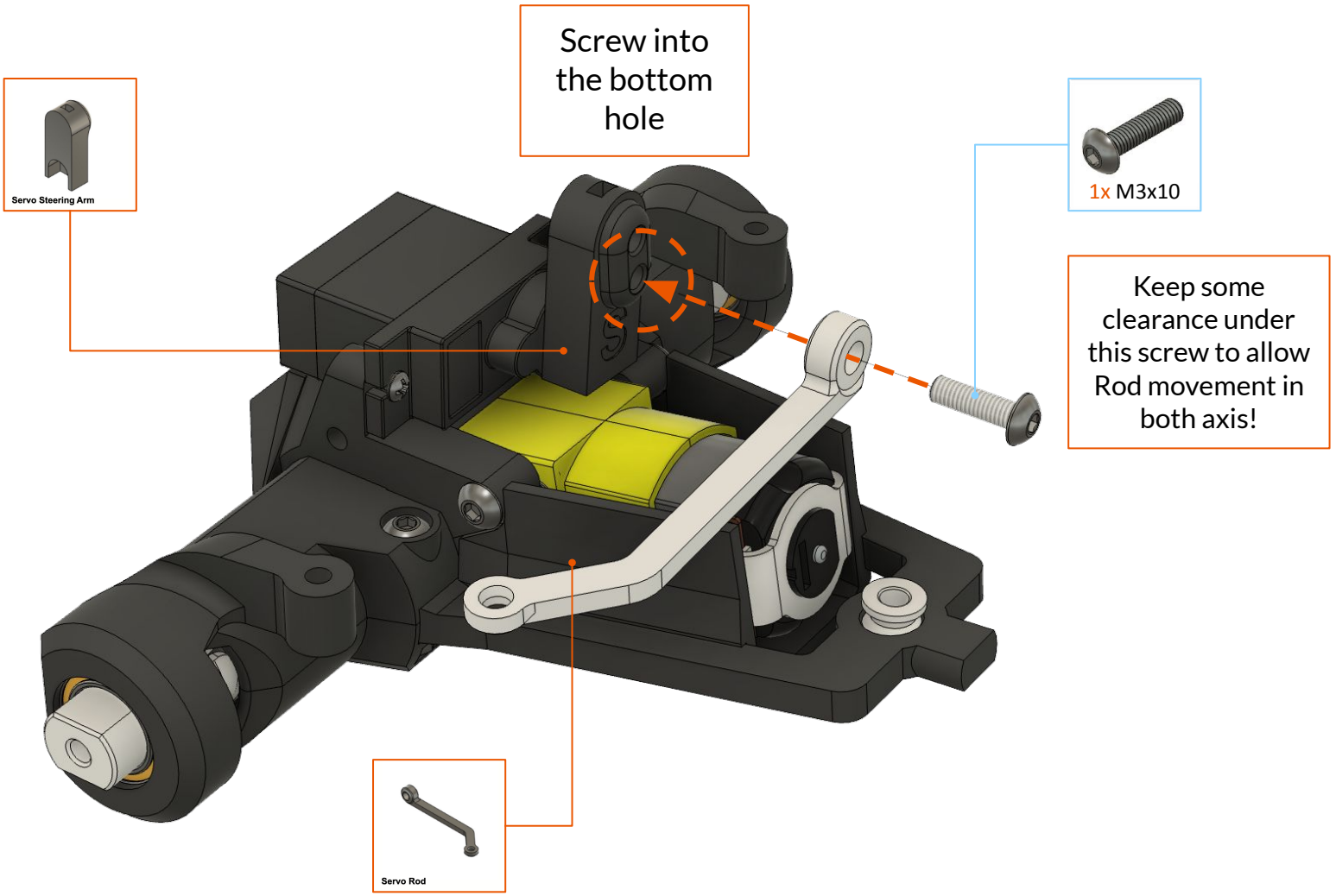
Rear Steering Axle – step 8-9/13



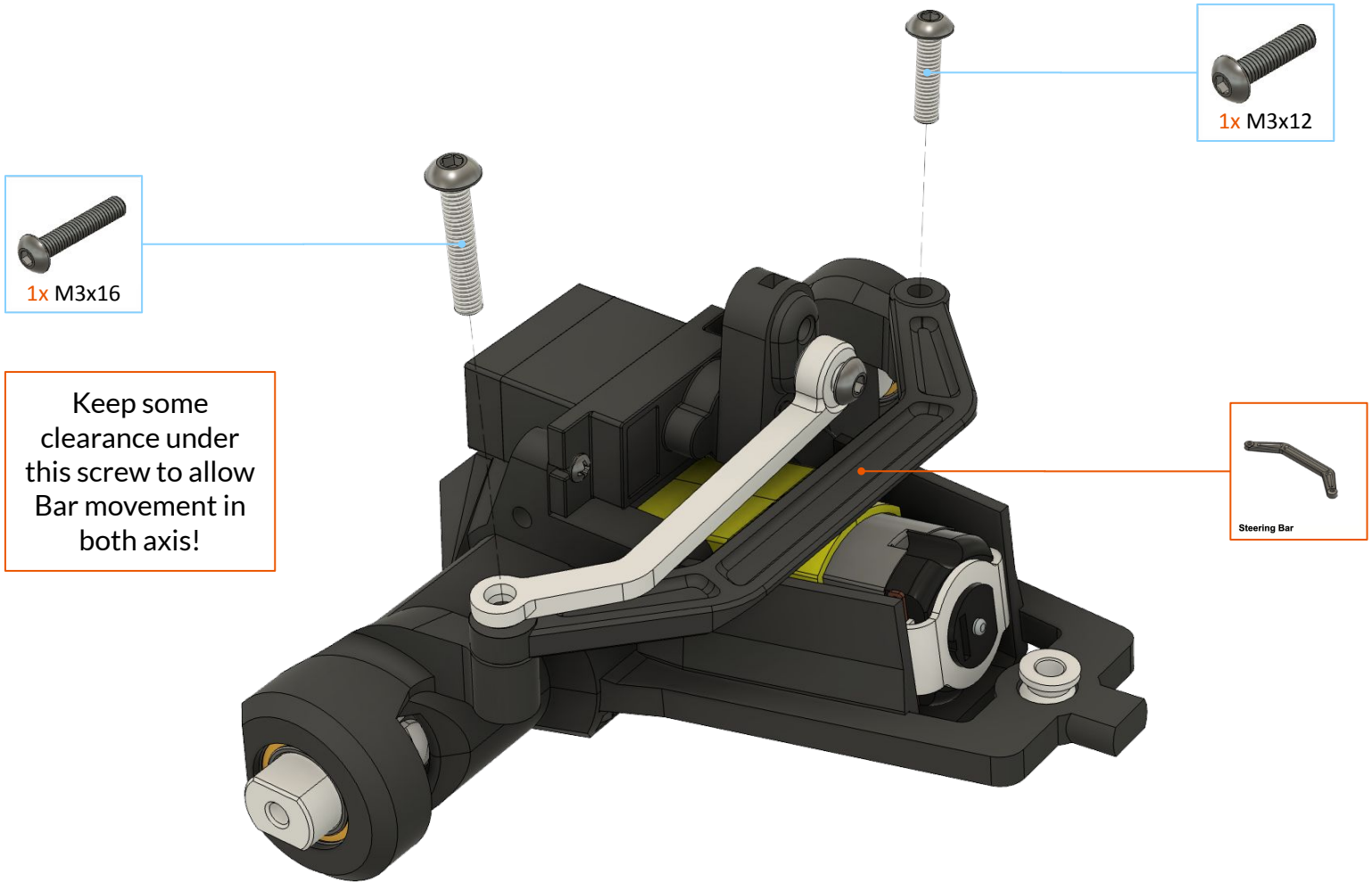
Rear Steering Axle – 10/13



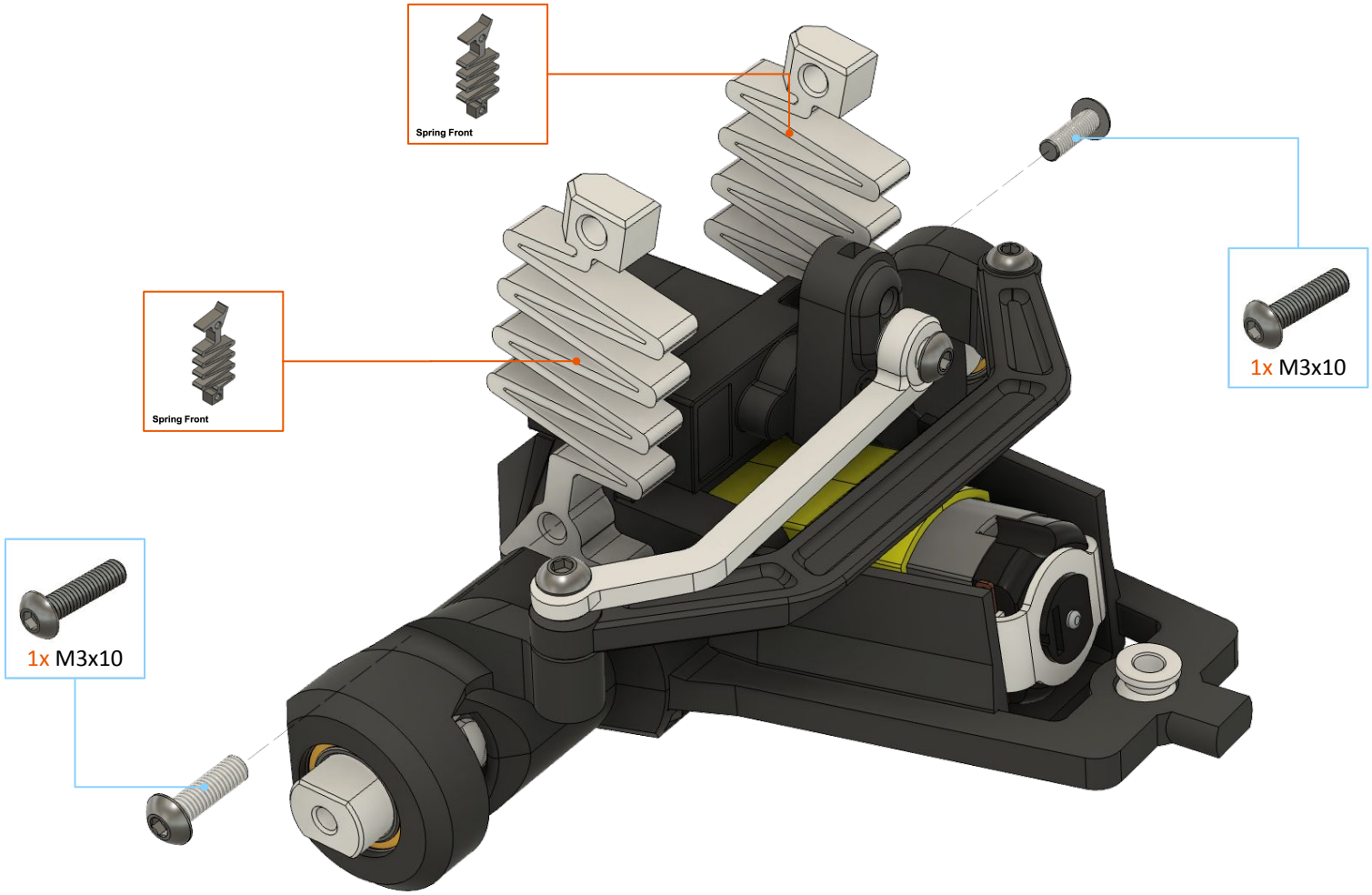
Rear Steering Axle – 11/13



Rear Steering Axle – 12/13



Rear Steering Axle – 13/13



Rescuer – Install Axles

In this procedure will install the axles into the body.

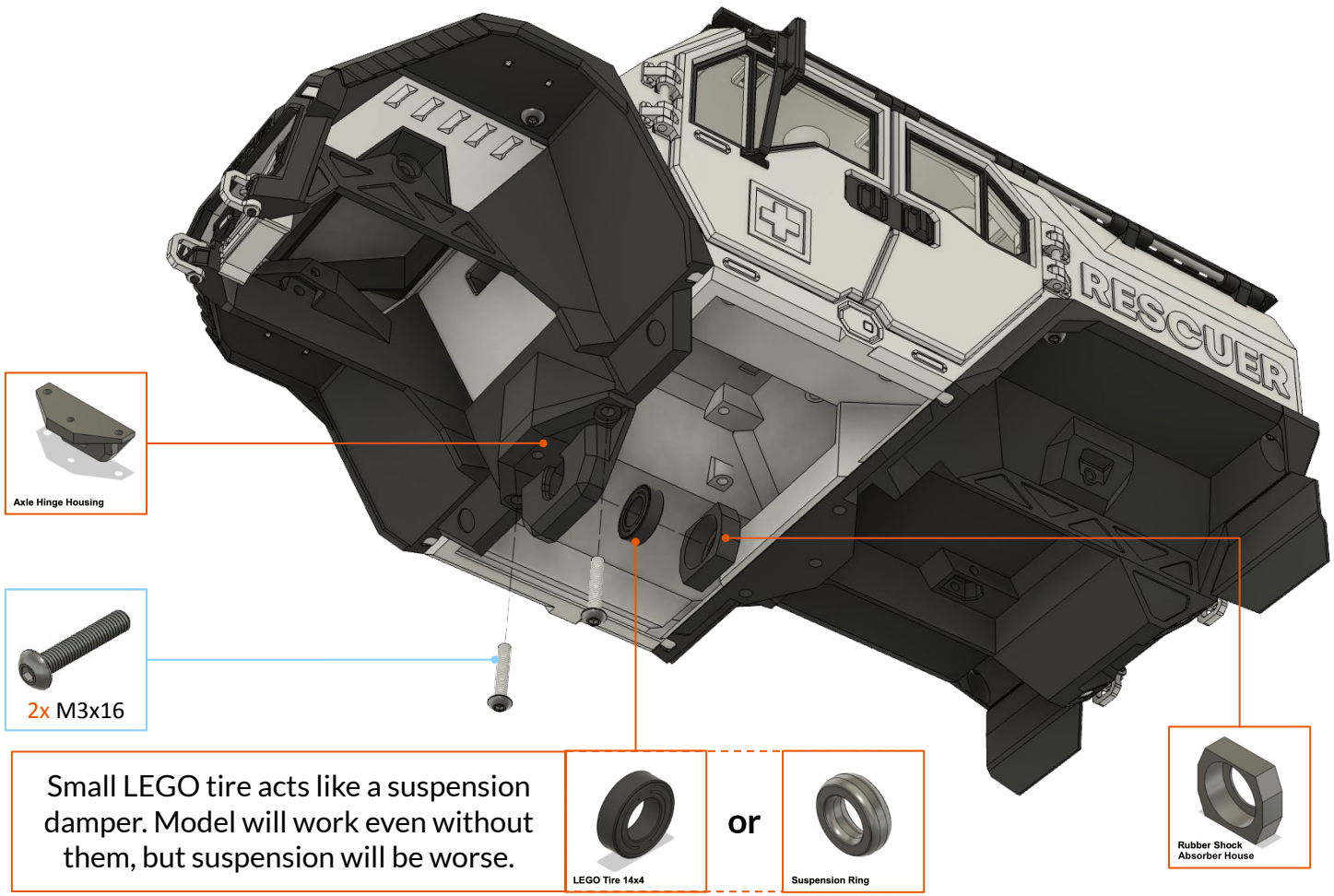
Required print plates:

- "Print 25 - Front Axle" - print 2x
- ~~“Print 26 - Rear Axle”~~ - do not print!

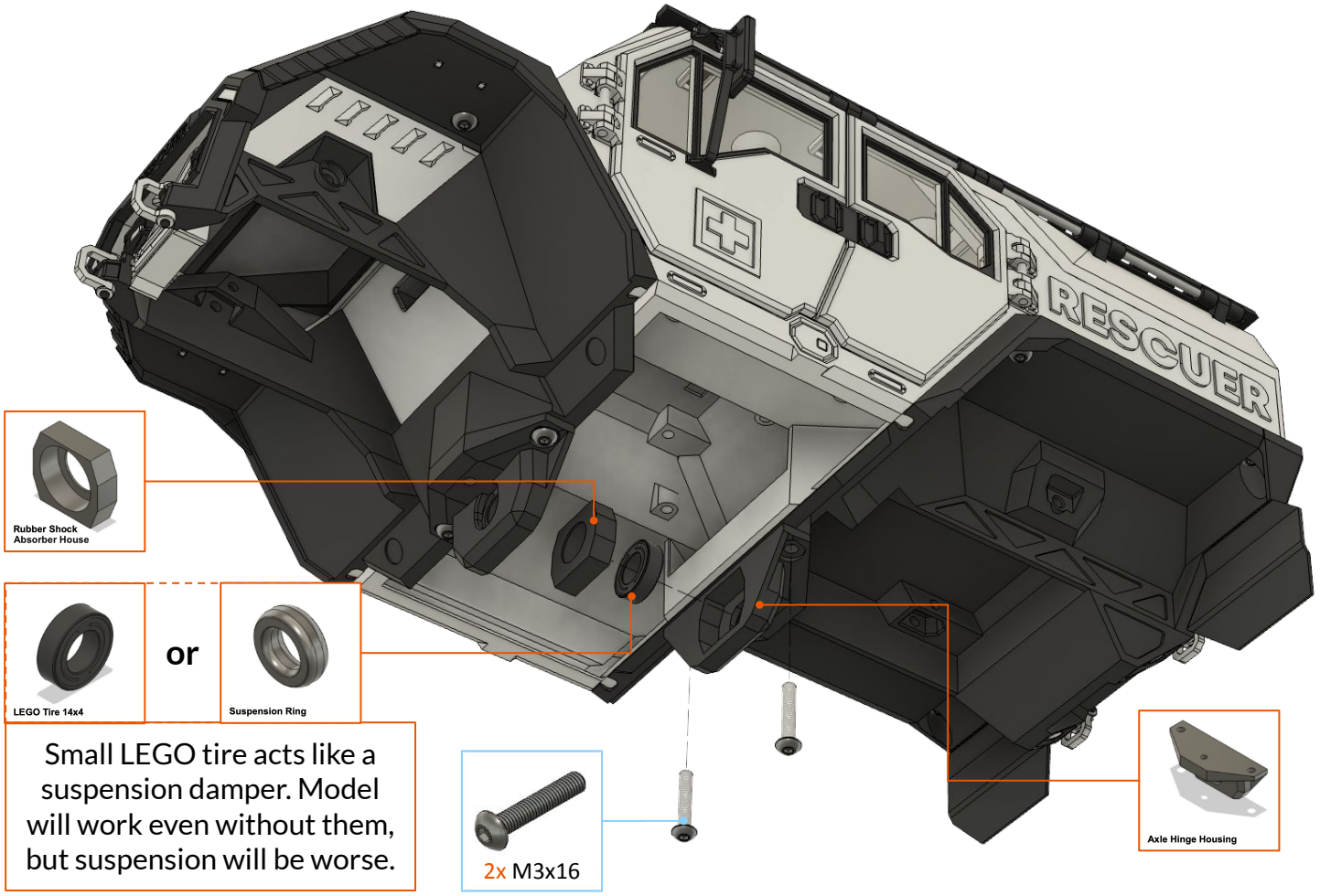
Non-printed parts:

- Screw M3x10: 2 pcs.
- Screw M3x16: 4 pcs.
- Screw M3x20: 4 pcs.
- LEGO Tire 14x4mm (Item No: 3139): 2 pcs.

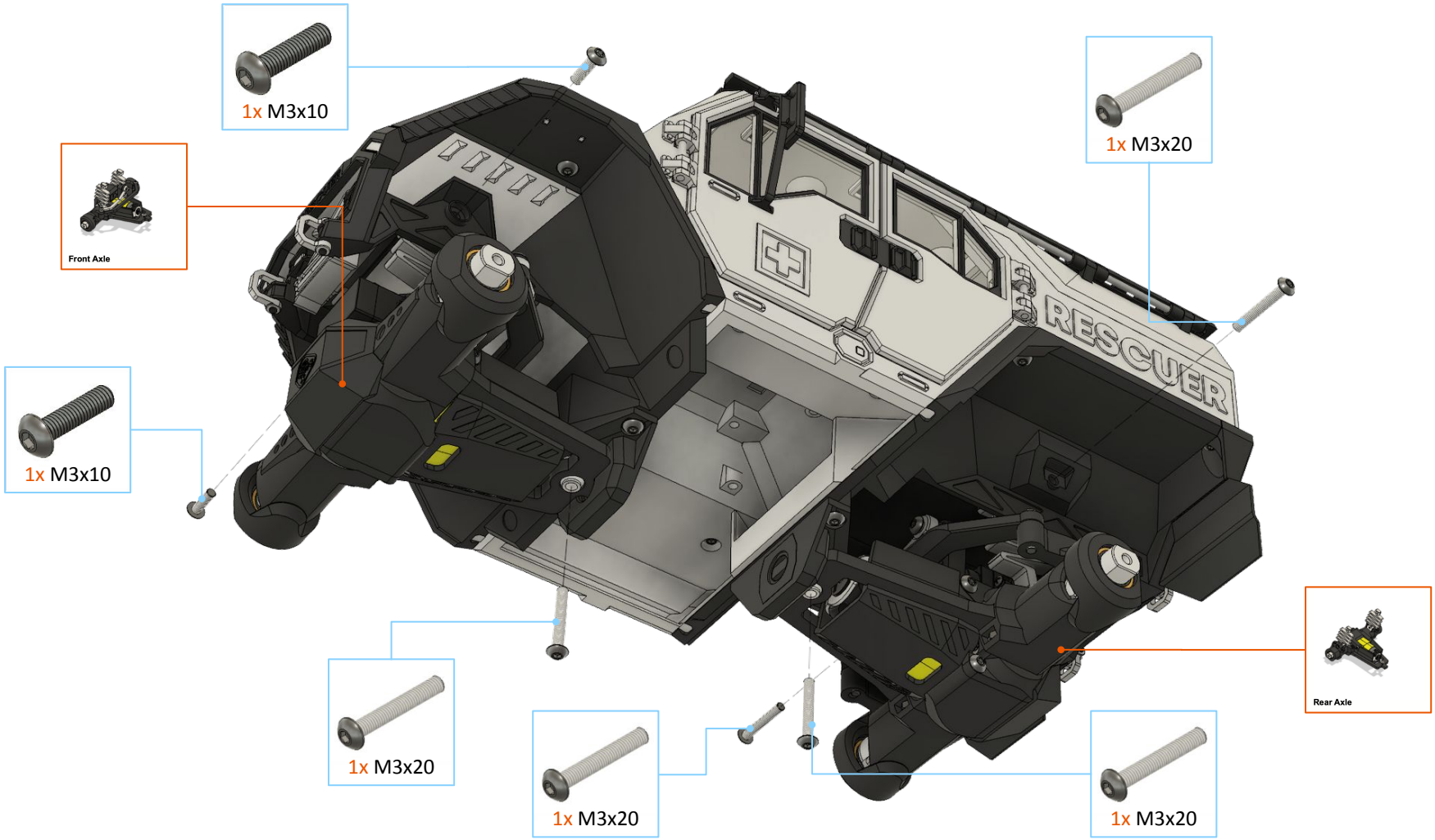
Install Axles – step 1/3



Install Axles – step 1/3



Install Axles – step 3/3



Rescuer – Electronics

In this procedure you will assemble the electronics of the car.

Required print plates:

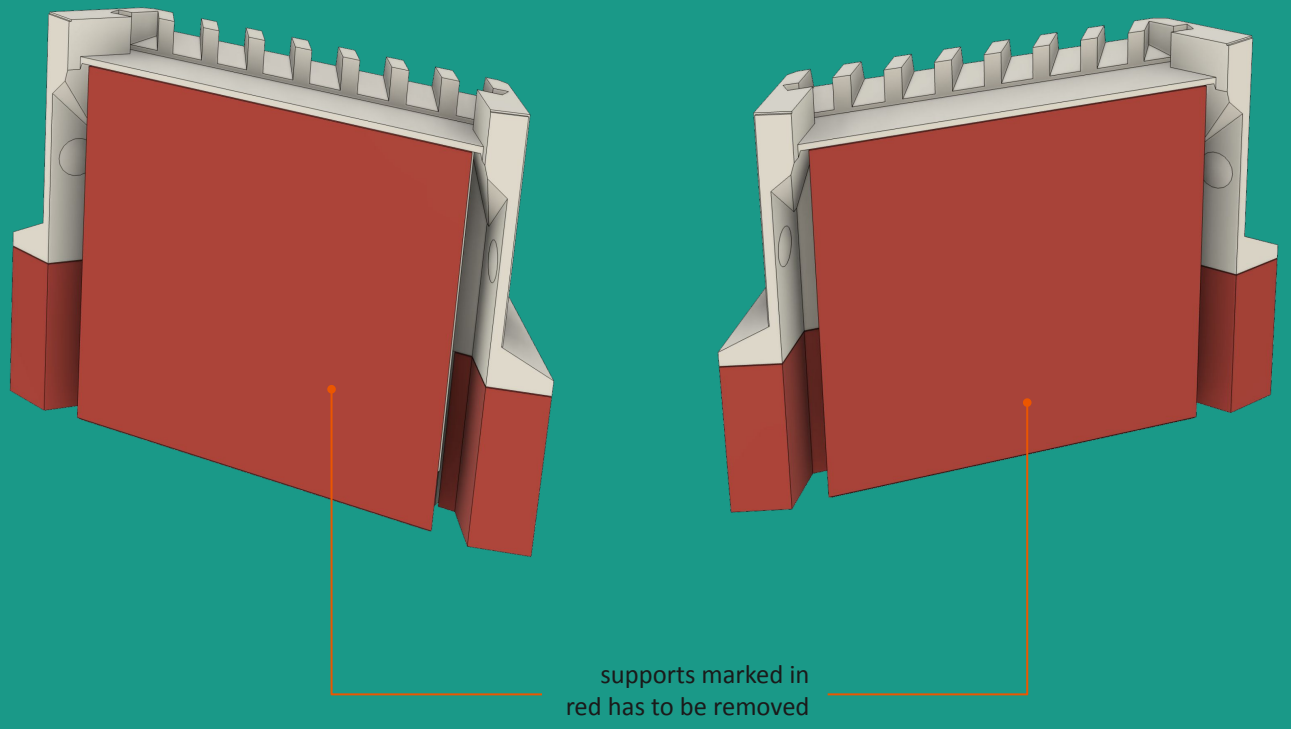
- "Print 4 - Roof Reinforcement + Front Body Top + Details"
- "Print 27 - Electronics Panel + Switch Holder"
- "Print 28 - Battery Cover"

Non-printed parts:

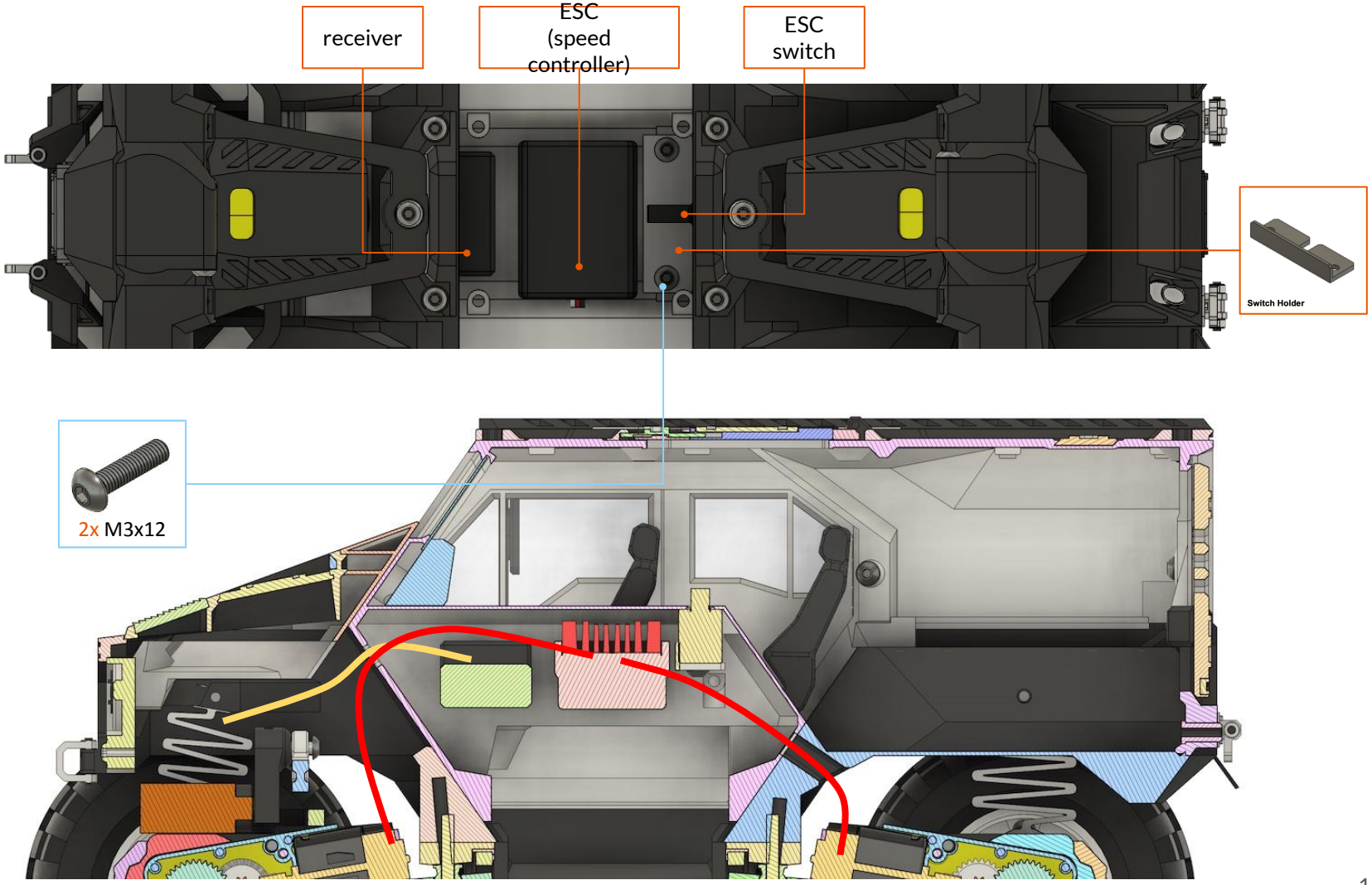
- Screw M3x6: 4 pcs.
- Screw M3x12: 2 pcs.

Postprocessing – removing supports

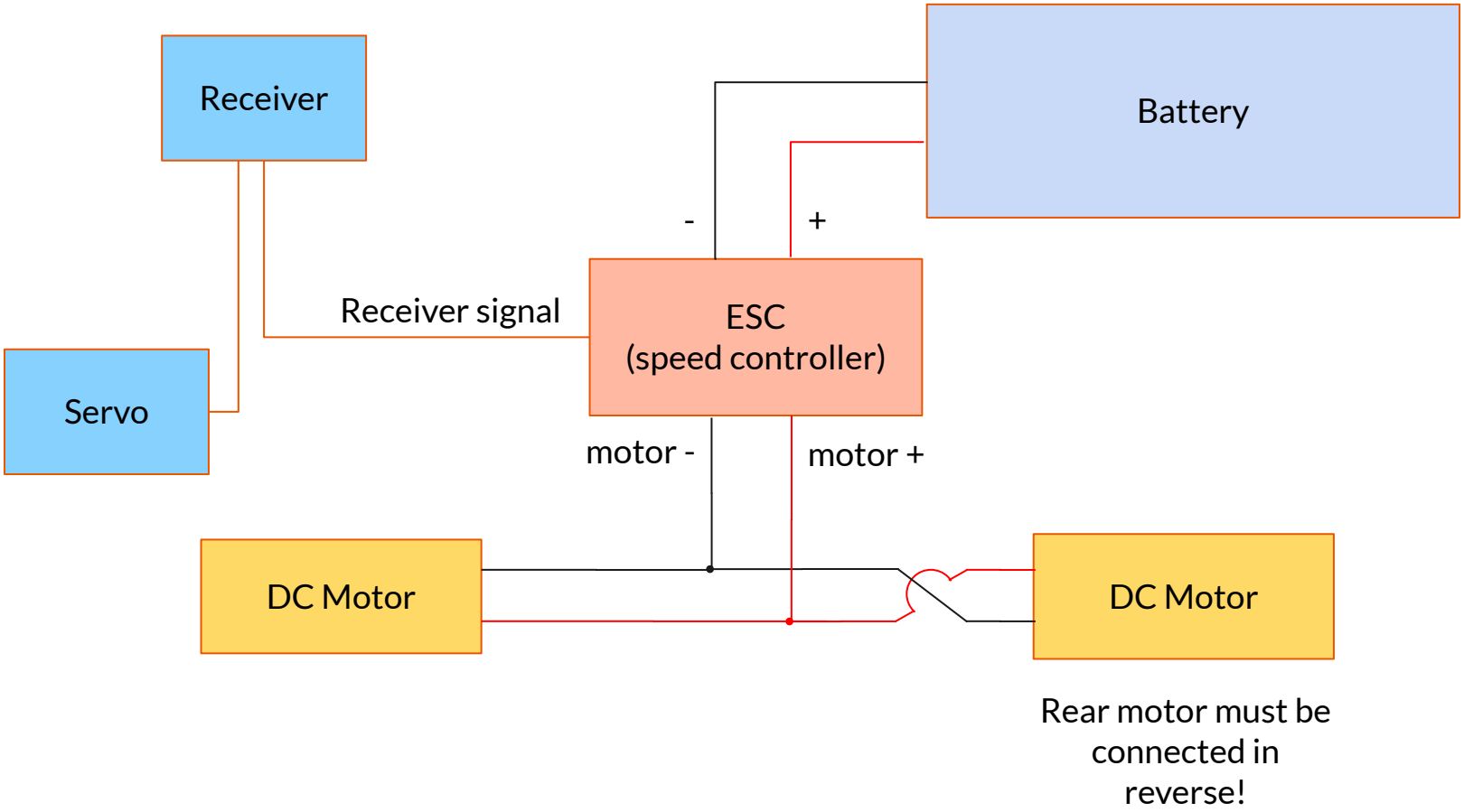
Before you start building, carefully remove printing supports (marked red) integrated to specific parts rendered below. You can use pliers and sharp knife to make the procedure easier. Be very careful as you can harm yourself!



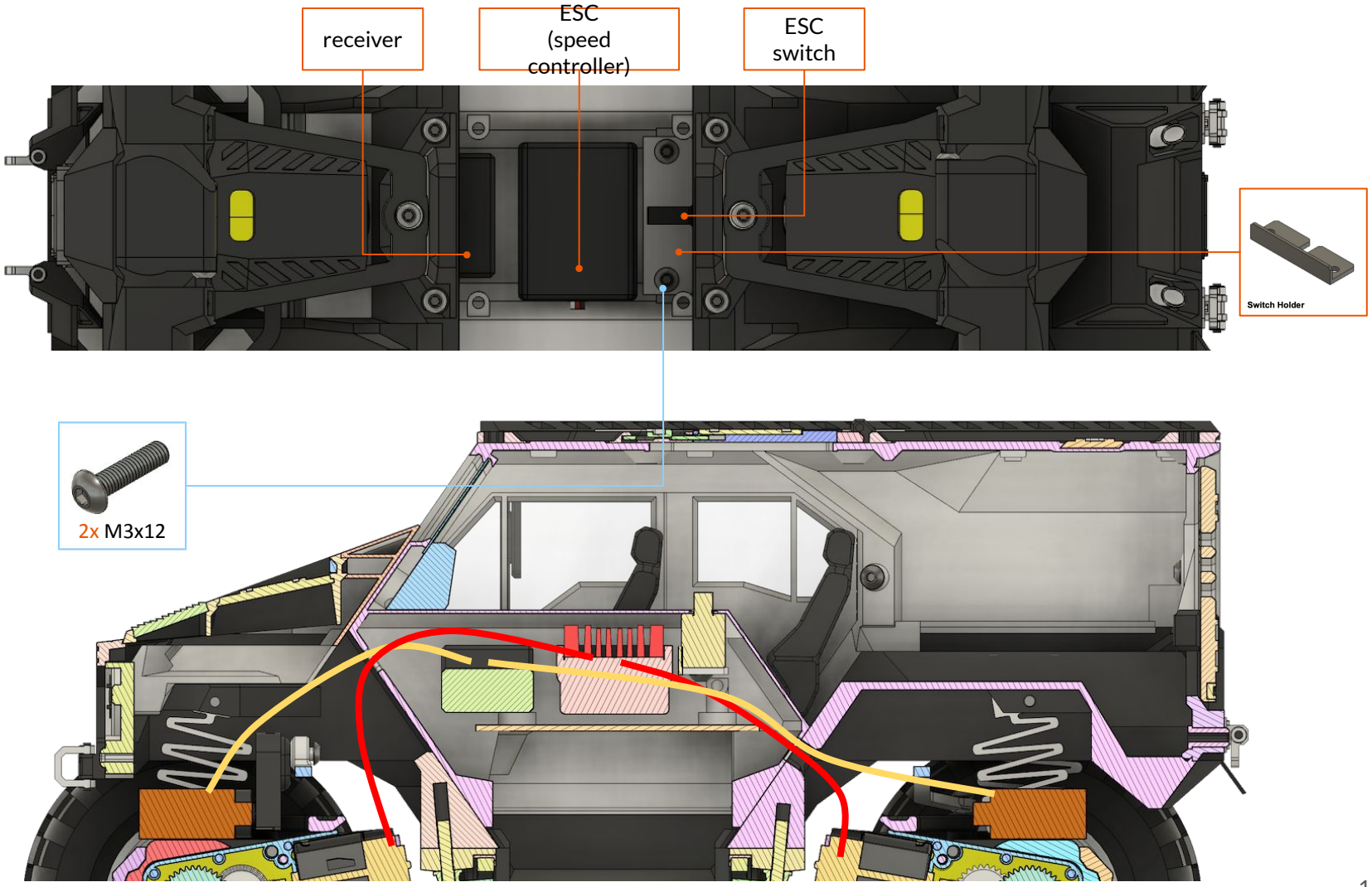
Electronics – step 1/3 – Normal Mode



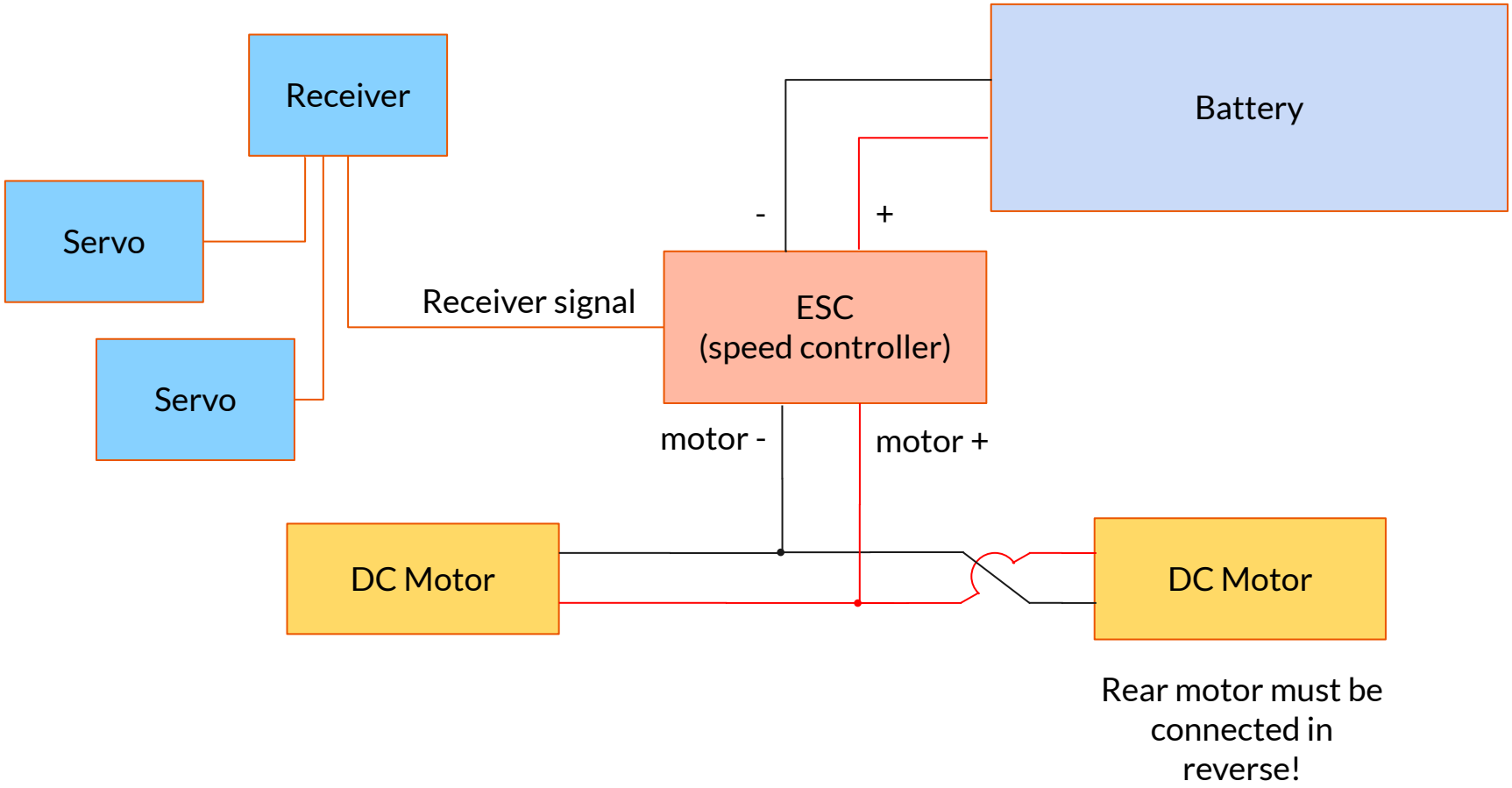
Electronics – Standard Steering Mode



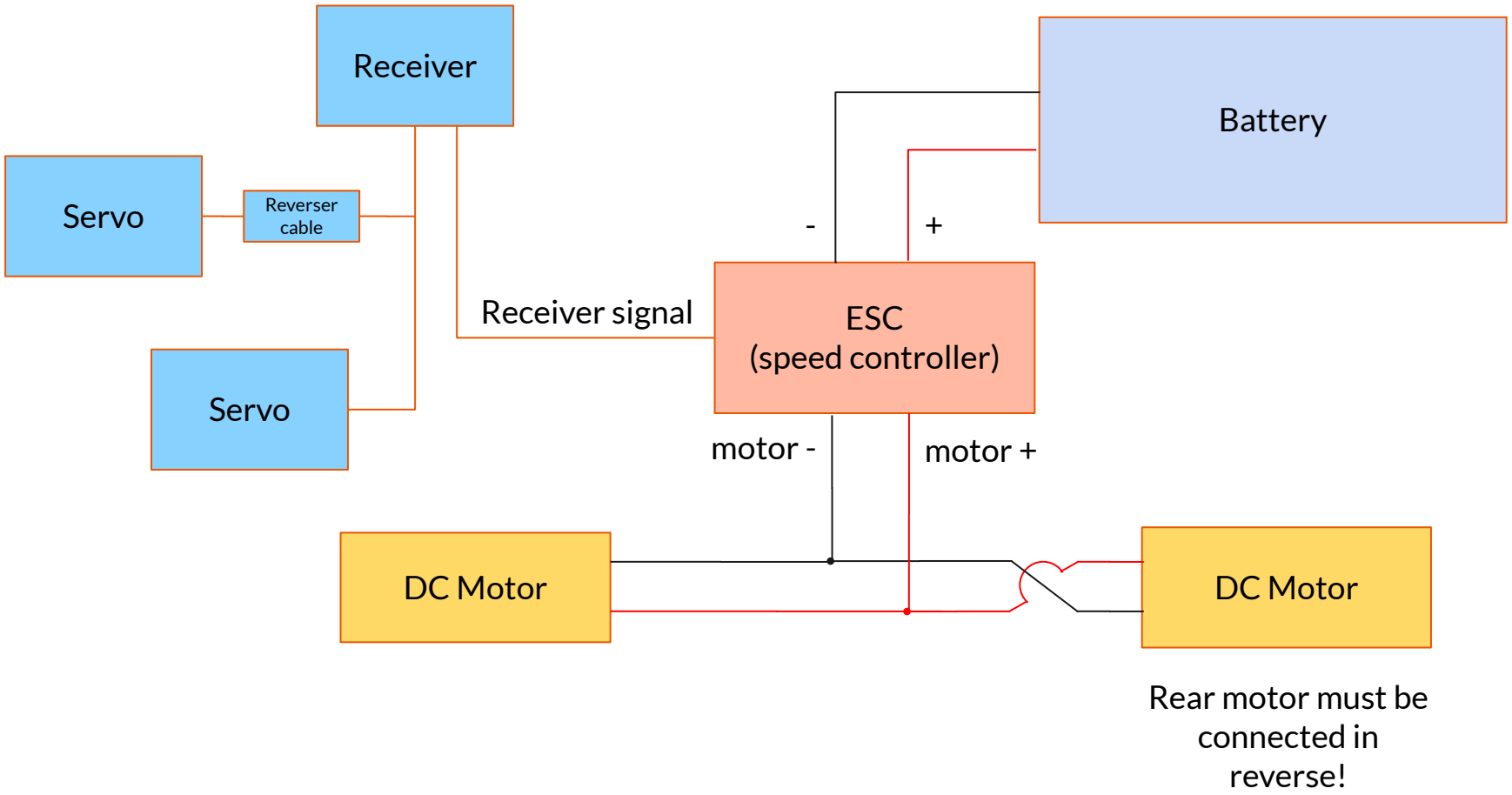
Electronics – step 1/3 – Crawler Steering Mode



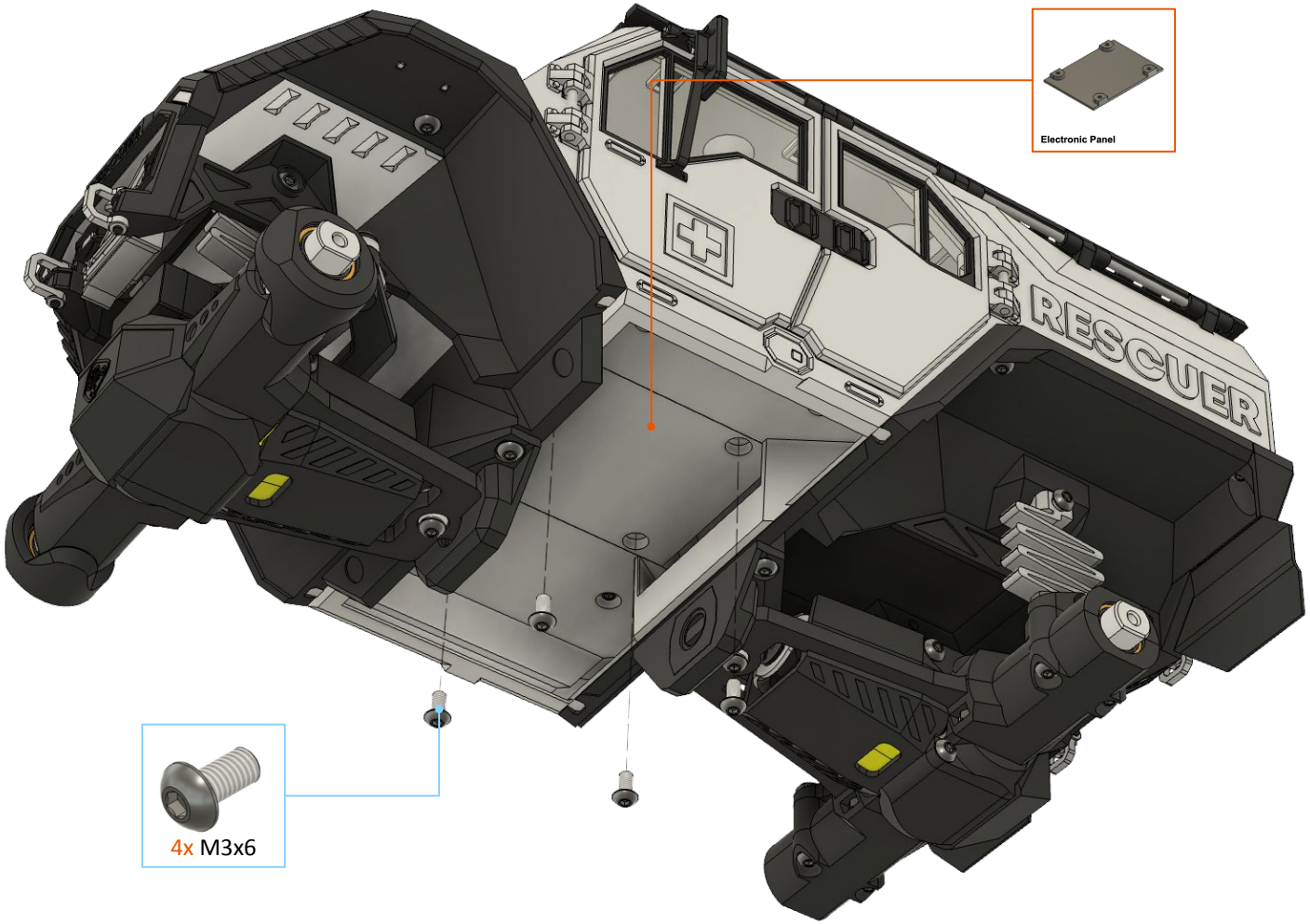
Electronics – Crawler Steering Mode using a Transmitter with “Crawler Mode” or “Channel Mix”



Electronics – Crawler Steering Mode using an “Reverser Servo Cable” + “Servo Y–cable”

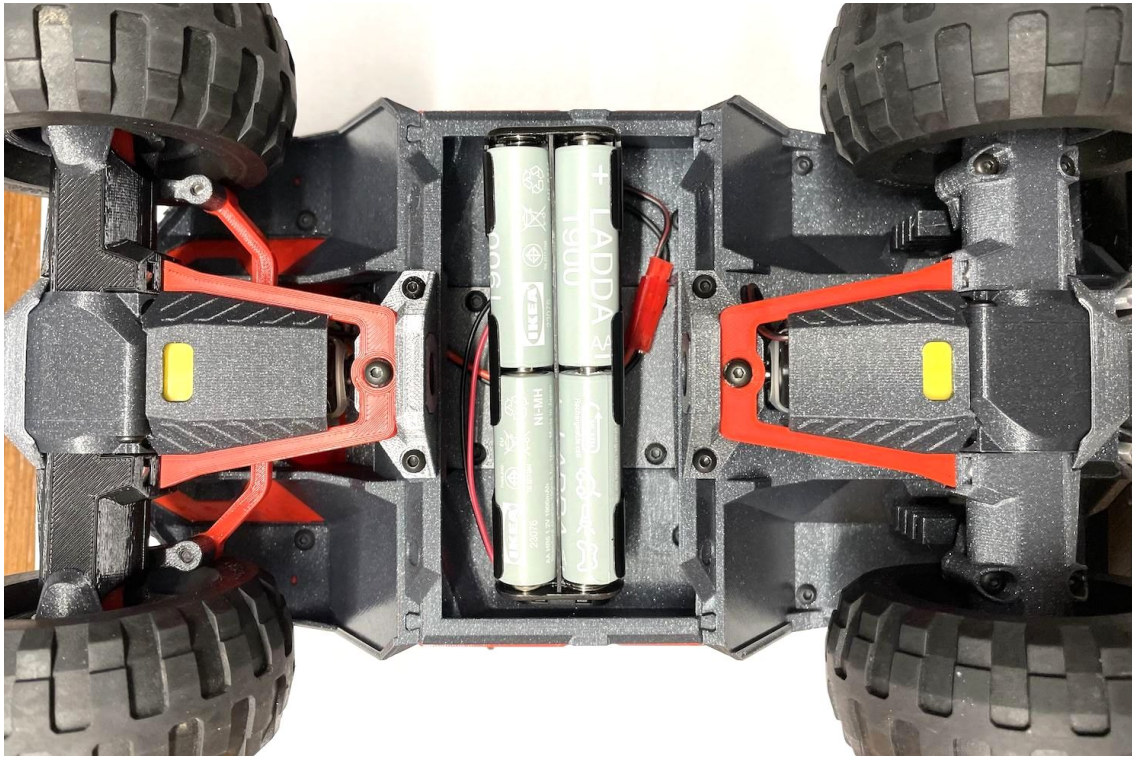


Electronics – step 2/3



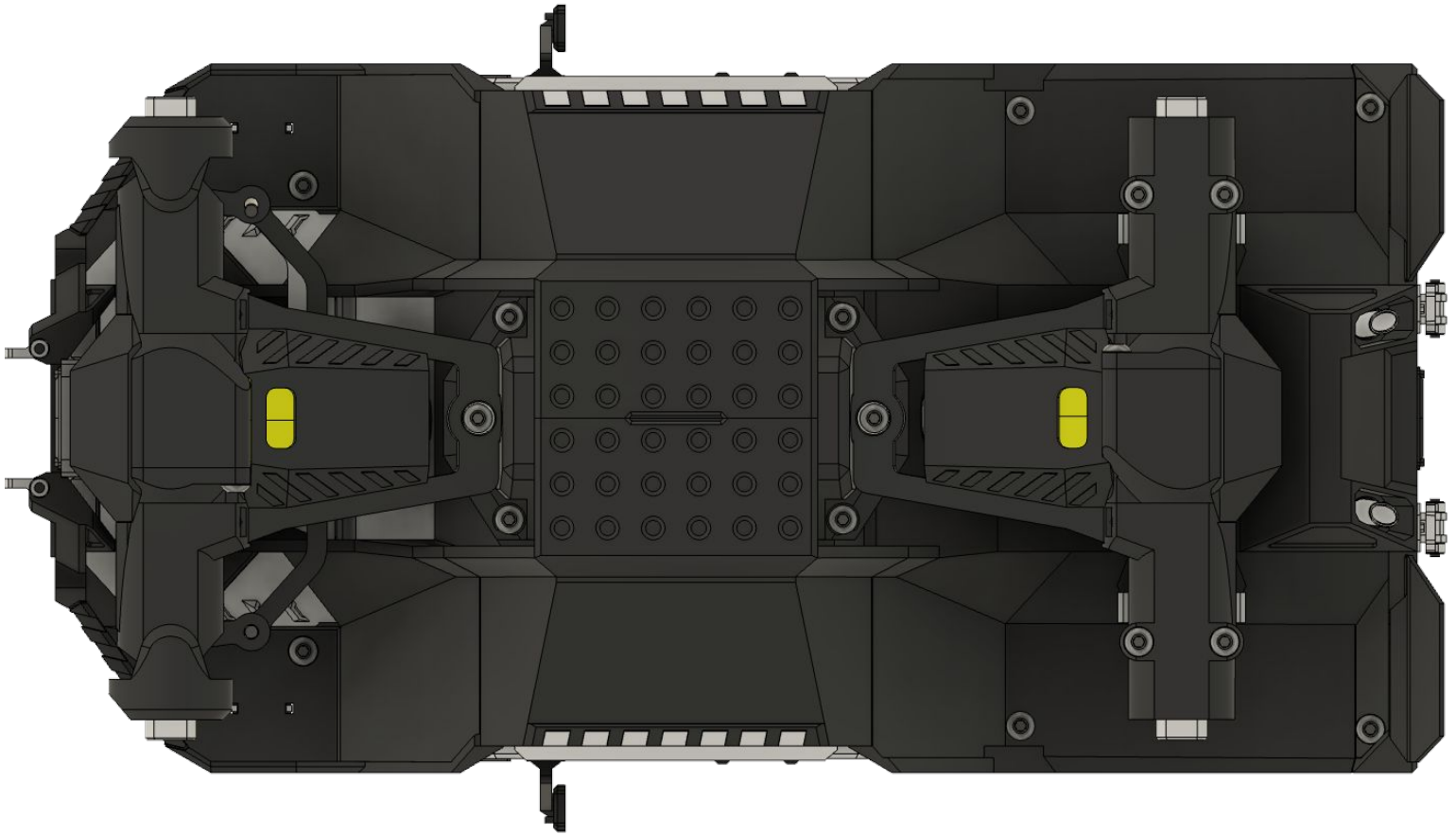
Battery Holder

Use 8 pieces of AA batteries. On the picture is shown 8 pieces battery cage – 4 pieces in 2 layers.



Battery Cover –step 1/3

Battery Cover –step 3/3



Rescuer – Wheel

In this procedure you will assemble the wheel of the car.

Required print plates:

- "Print 29 - Wheel Mini A - Inner"
- "Print 30 - Wheel Mini A - Outer"
- "Print 31 - Wheel Mini A - Hub"

Non-printed parts:

- Screw M3x6: 12 pcs.
- Screw M3x16: 4 pcs.

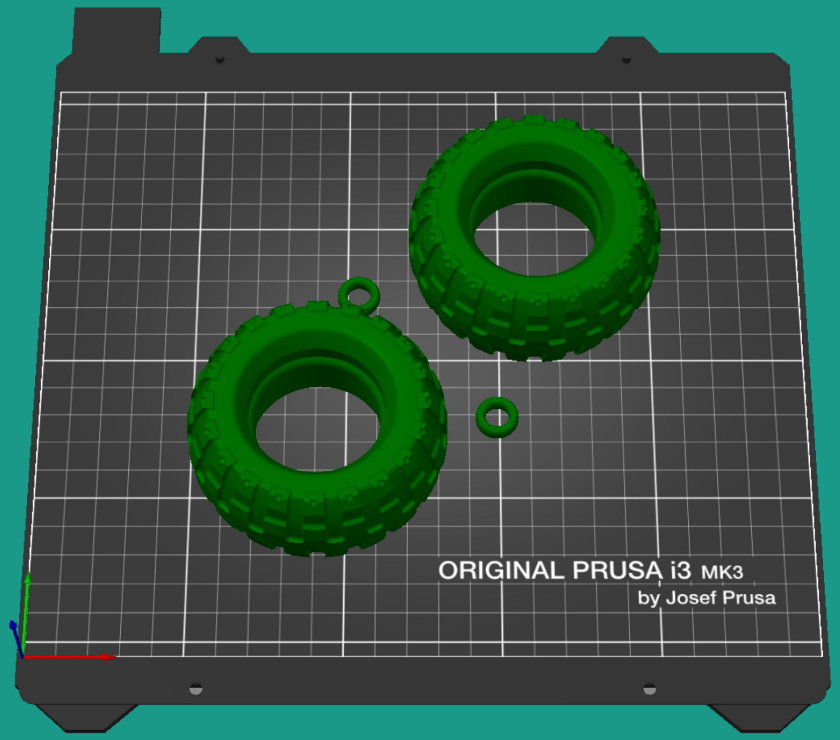
Tires

You can print your own tires from flexible filaments, for easy printing and nice matte finish we tested "Fiberlogy MattFlex 40D" filament. Use **0% infill for flexible filaments** – the "Tire.stl" file we provided is designed with ready-made internal supports, which don't require any generated infill, resulting in relatively soft tires.

You can also print the "Dampening Rings" from flexible materials to replace tiny LEGO® tires acting as suspension dampers.

Recommended settings:

- Infill: 0%
- Perimeters: 2 perimeters
- Seam position: Random
- Top Layer: Archimedean Chord (optional, not required)

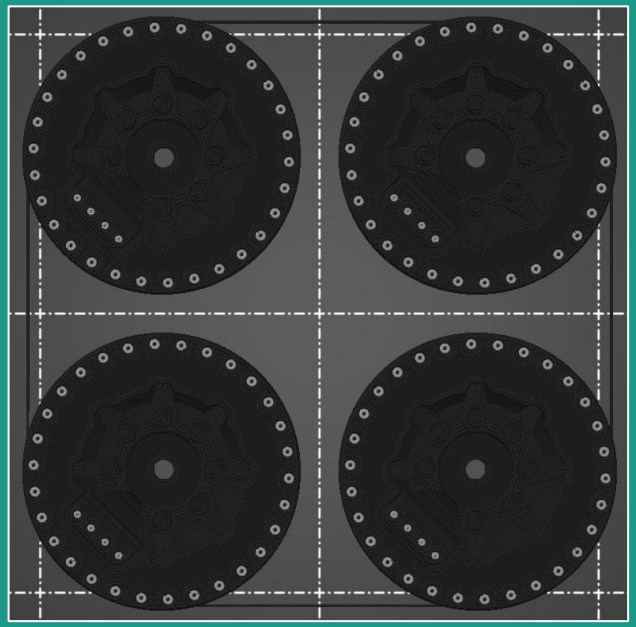


Wheel

You can print Wheel Mini A - Outer and Wheel Mini A - Hub with filament changes to achieve color results. Please, setup filament changes in layer heights described below (setup is for layer height 0,15mm):

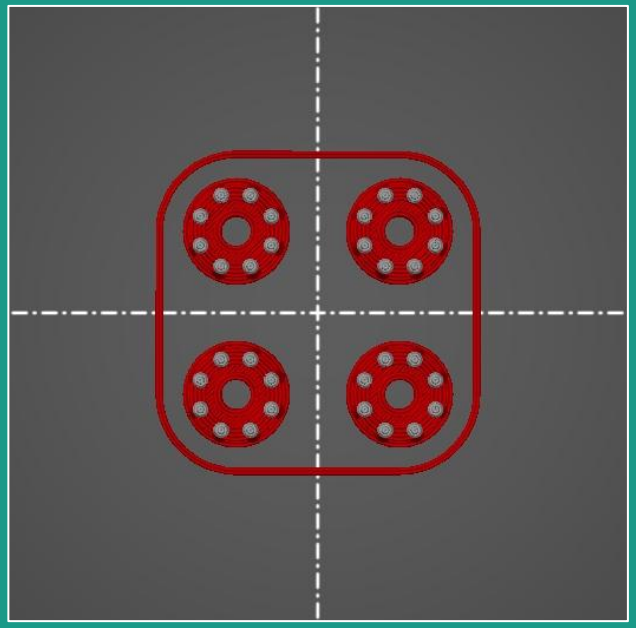
Wheel Mini A - Outer

- Layer 113 - height 17,15mm
- Layer color before change: black
- Layer color after change: silver

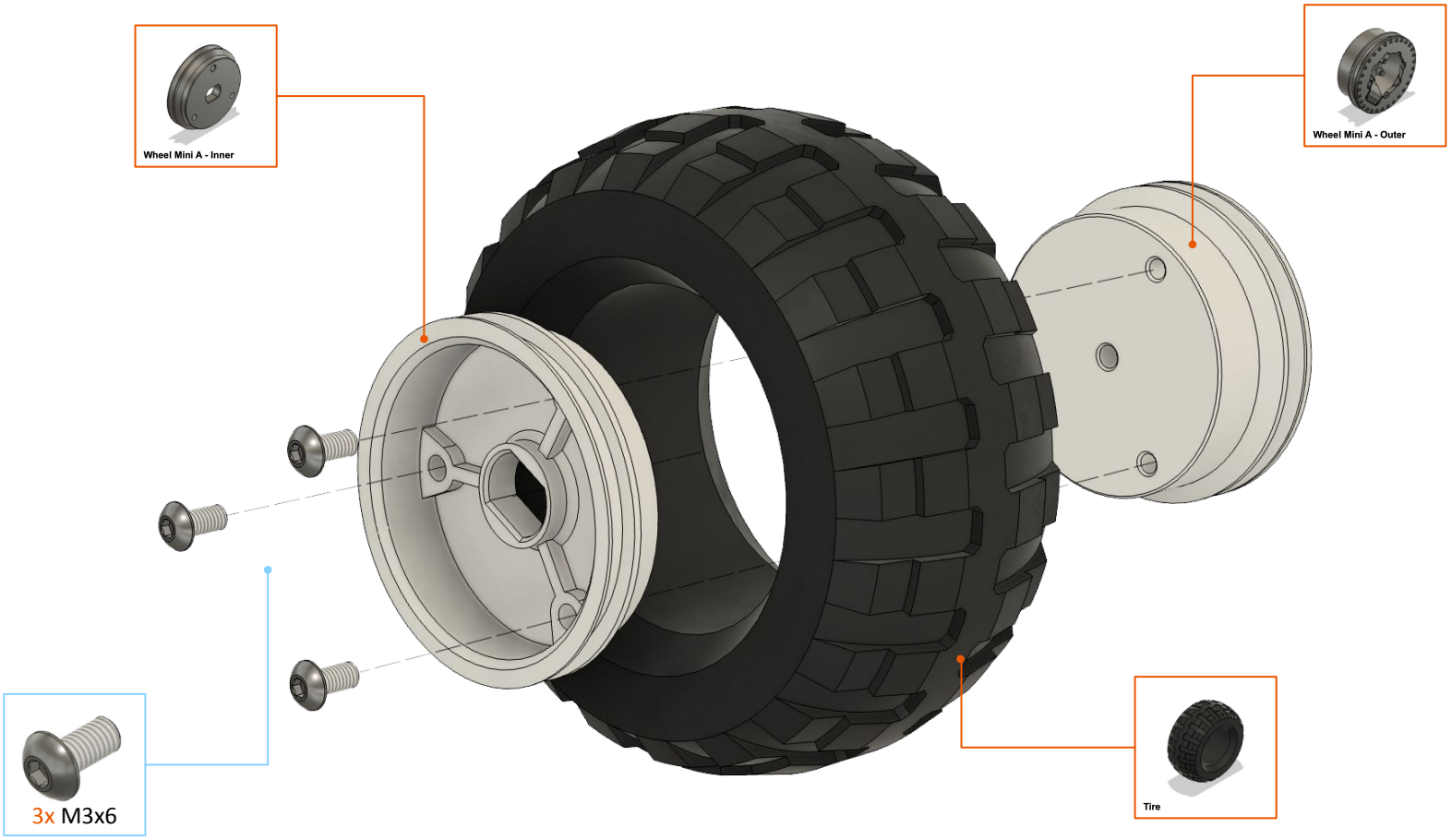


Wheel Mini A - Hub

- Layer 55 - height 8,3mm
- Layer color before change: red
- Layer color after change: silver



Wheel Mini A



Wheels installation

Rescuer – finish