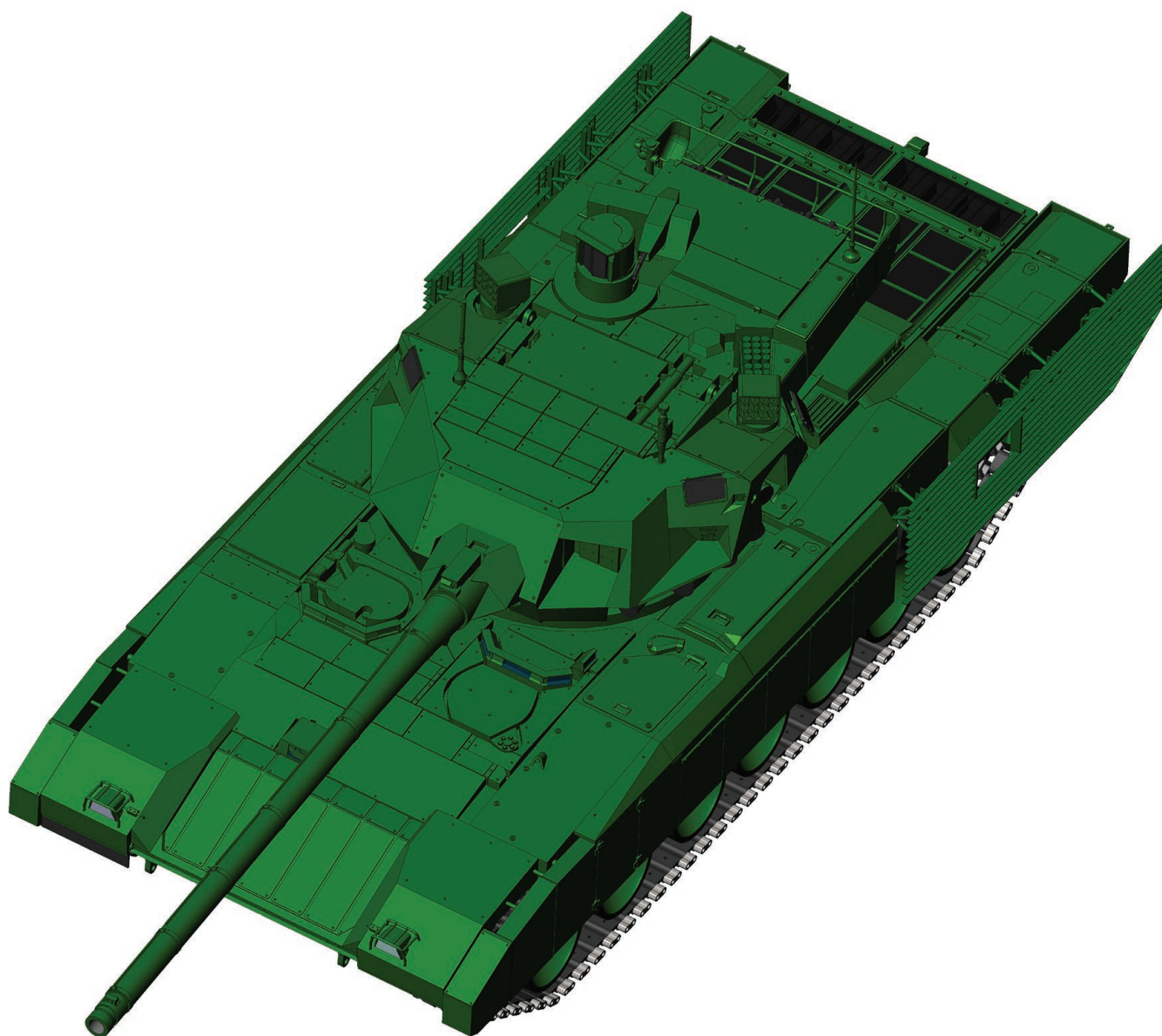


T-14 Armata

Russian MBT

Assembly Guide



1/16 scale RC model by  **WARPRINTS**

T-14 Armata

T-14 Armata

preparation

Thank you for choosing our model.

We hope that the construction will be smooth and you will enjoy the model.

- RC T-14 Armata from warprints is compatible with a large number of common electronics available for RC tanks
- robust construction
- compatible with a wide range of transmissions with both 48mm and 58mm shafts (58mm is recommended)
- integrated track tensioner
- option to use aftermarket tracks (for T-90 tank - 3 tracks are needed)
- road wheel rims and fender aprons made of "rubber"
- main switch under the functional hatch on the hull
- functional front headlights
- bearings in every important place.
- every screw used has a nut embedded in the model. nothing is held in the plastic thread.
- the possibility of installing a speaker and net on the engine cover
- you can fit the turret with your airsoft mechanism, standard recoil unit or our own solution (fully servo operated including recoil unit).
- place for PFV camera under the functional cover.
- functional service hatch on the turret.
- 360° rotatable machine gun.
- alternative machine gun with built-in IR receiver
- place for IR diode next to the cannon

T-14 Armata

preparation

- for printing a large number of parts, a nozzle with a maximum diameter of 0.35mm is required!!!
- calibrate the printer as best as possible, it is necessary to achieve the most accurate dimensions.
- for surface treatment we recommend XTC-3D diluted with rubbing alcohol in a ratio of 2:1 in favour of XTC-3D
- we do not recommend printing from PLA because of the low melting point of the material (our PLA prototype melted on sun) or from HD PLA because of dimensional instability.

The kit is divided into assemblies.

The individual assemblies can be removed from the tank at any time for service or maintenance.

Never glue individual assemblies together!!!

In this manual you will find the exact procedure of building.

Do not skip steps, stick to the exact order of work!!!

It can easily happen that you will prevent further tank building, future maintenance, or damage to the model - especially to the running gear.

Of course, you can build the individual assemblies in any order you want.

T-14 Armata

preparation

Choose your construction method

Your T-14 can be low-cost or high-end.

It's not just the electronics used that makes the difference. In some parts of the build you can choose alternative parts or whole assemblies of parts.

For example - it's up to you whether you make functional LED front lights or use simplified parts.

You can also use a dummy instead of a complicated FPV camera mechanism, and there are many other options. You can replace most of the components at any time, not just during the build.

It is possible to use a wide range of electronics for RC tanks. The internal space is large and allows you to install practically anything.

This has made the kit ready for installing a wide range of components without having to interfere with the construction.

You can also use electronics from most of your older MATO®, Heng-Long® and Torro® compatible tanks.

If you have any questions, please ask on our forum:

<https://www.warprints.xyz/forum>

T-14 Armata

preparation

MATERIAL LIST

Defalut hardware required for the construction of the basic kit.

Part	Amount
M1,6x4 screw	2
M1,6x6 screw	2
M1,6x10 screw	2
M2x6 screw	6
M2x8 screw	14
M2x10 screw	6
M2x12 screw	4
M3x6 screw	6
M3x10 screw	19
M3x12 screw	40
M3x16 screw	10
M3x20 screw	20
M3x25 screw	12
M3x30 screw	12
M3x40	4
M3x50 screw	14
M4x25 screw	2
M6x80 HEX screw	2
Screw for gearbox	2
M1,6 nut	1
M2 nut	31
M3 low profile nut	34
M3 nut	163
M4 nut	6
M6 low profile nut	8
M3 washer	57

Part	Amount
1,6x38,5mm pin (wire)	336
2x18mm pin	2
2x20mm pin	8
2x25mm pin	1
2x60mm pin	1
3x30mm pin	1
MF126zz - 6x12x13,2x3mm	4
MF148zz - 8x14x15,6x3,5mm	2
623zz - 3x10x4mm	59
633zz - 3x13x5mm	3

T-14 Armata

preparation

MATERIAL LIST

Optional hardware required for the construction of the optional components.

If alternate parts are used, some of these parts must be added to the default list and some must replace the original parts from the default list.

See the smaller hardware lists at the beginning of each chapter for more details.

Part	Amount
M2x4 screw	2
M2x6 screw	6
M2x8 screw	2
M2x12 screw	5
M2x16 screw	3
M3x6 grub screw	1
M3x8 screw	22
M3x10 screw	1
M3x20 screw	2
M3x25 screw	2
M3x30 screw	2
M2 nut	2
M3 nut	13
M6 self-locking nut	6
M3 washer	2
MR117ZZ - 7x11x3mm	2
623zz - 3x10x4mm	16
1,5x38,5mm pin (wire)	336

T-14 Armata

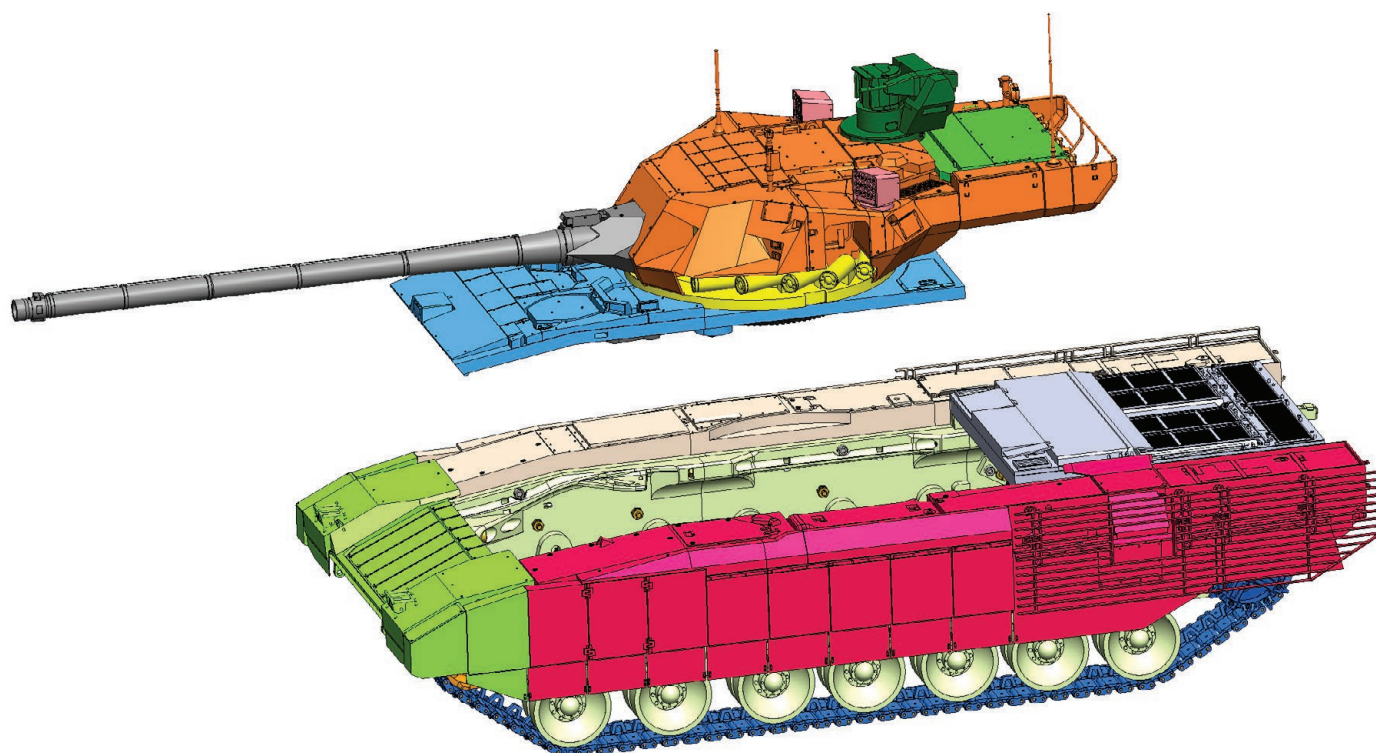
preparation

ELECTRONICS LIST

Part	Amount
NECESSARY PARTS included in this guide	
standard RC tank 360° turret ring (small) with slip ring	1
standard RC tank turret rotation motor	1
Heng-Long® or Torro® or compatible Gearboxes (4:1)	1
OPTIONAL PARTS included in this guide	
3mm white LED	2
5mm red LED light or IR emmitter diode	1
FS90R 360° SERVO	1
JGY-N20 MOTOR	1
N20 MOTOR	1
Heng-Long® or Torro® Infrared Battlesystem Receiver	1
TOWERPRO® SG90 9g SERVO	3
TOWERPRO® FR360 9g SERVO	1
TOWERPRO® SG90 servo arm	2
TOWERPRO® SG90 9g SERVO screw	4
MATO®, Heng-Long®, Torro® or compatible airsoft unit	1
MATO®, Heng-Long®, Torro® or compatible recoil unit	1
MATO®, Heng-Long®, Torro® or compatible gun elevatin unit and spring	1
FPV microcamera with 8x8mm mount	1
MATO® MF3010 stereo sound speakers	1
63,8mm x 18,8mm net	2
62mm x 24mm net	4
NECESSARY PARTS not included in this guide	
RC Transmitter + Receiver	1
RC Tank Control Unit (MTCU by Kim Olsen reccommended)	1
Battery	1
OPTIONAL PARTS not included in this guide	
Smoke generator (TARR Smoke Generator - IBU Edition reccommended)	1
MATO®, Heng-Long®, Torro® or compatible Xenon or LED muzzle flash	1
16CH Receiver PWM/PPM/SBUS/DBUS To Signal Converter Module	2
FPV microcamera with 14x14mm size (CADDX Ant Lite)	1

T-14 Armata

preparation

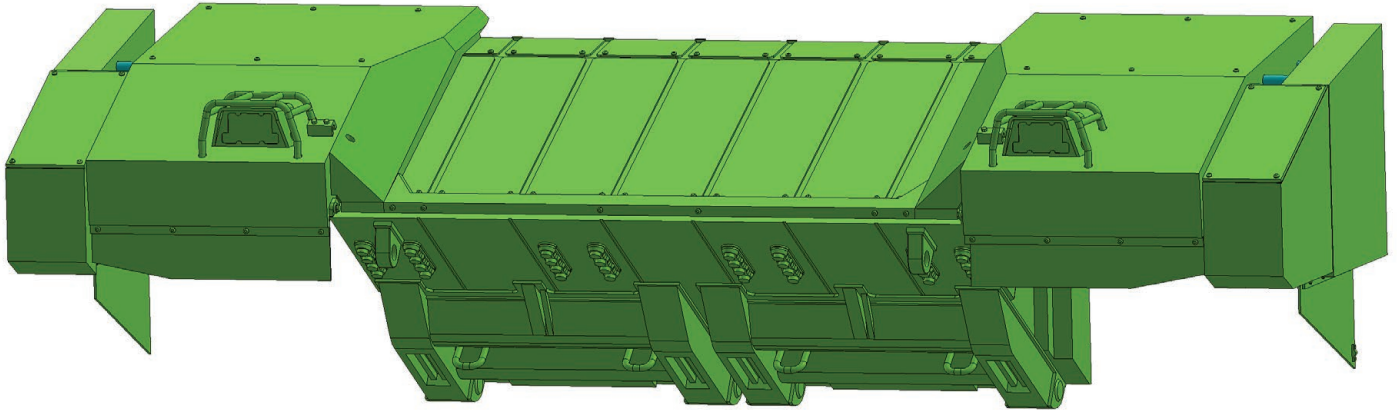


T-14 Armata

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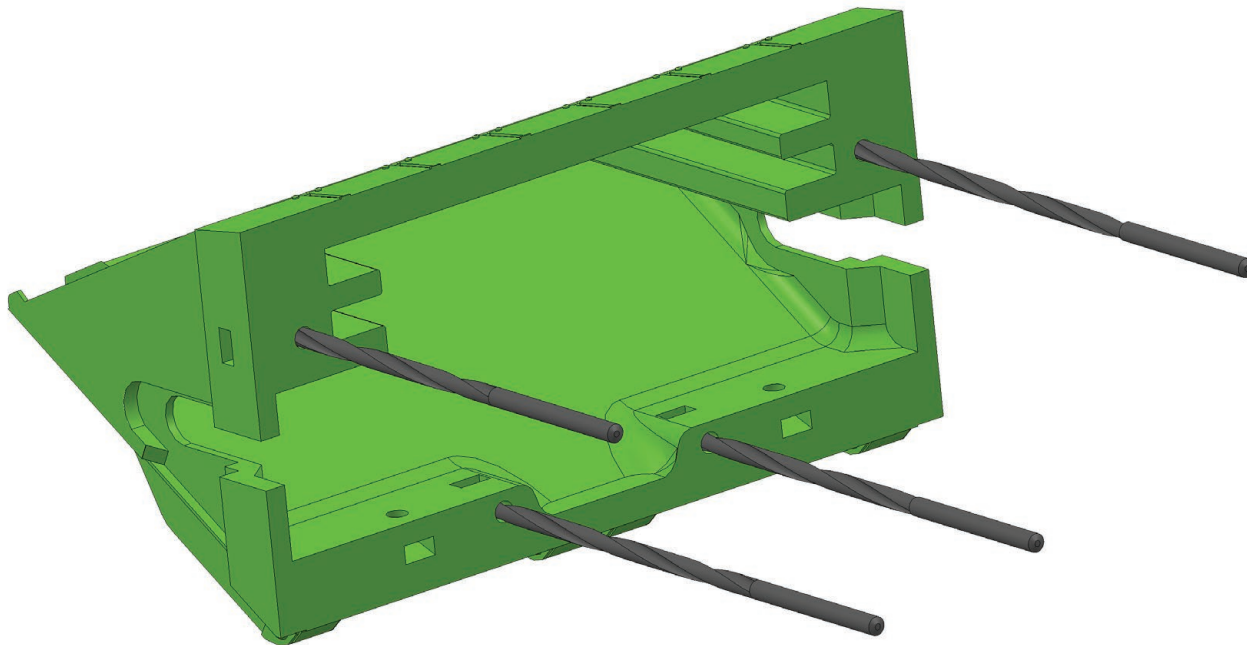
Assembly 01 (front of the hull)



AMOUNT:	1x
PRINTED PARTS:	01-01 (1x), 01-02 (1x), 01-03 (1x), 01-04 (8x), 01-05 (1x), 01-06 (1x), 01-07 (1x), 01-08 (1x), 01-09 (1x), 01-10 (1x), 01-11A (2x), 01-11B (2x), 01-12 (2x), 01-13 (2x).
OPTIONAL PRINTED PARTS:	01-02_NO_BASE (1x), 01-03_NO_BASE (1x), 01-09_alt (1x), 01-10_alt (1x), 01-11_alt (2x), 01-12_NO_BASE (2x), 01-13_NO_BASE (2x).
NON-PRINTED PARTS:	2x20mm pin (8x), M3 LOW PROFILE NUTS (6x), white LED - 3mm dia (2x), cable 0,8-1mm dia (4x200mm)
OPTIONAL NON-PRINTED PARTS:	

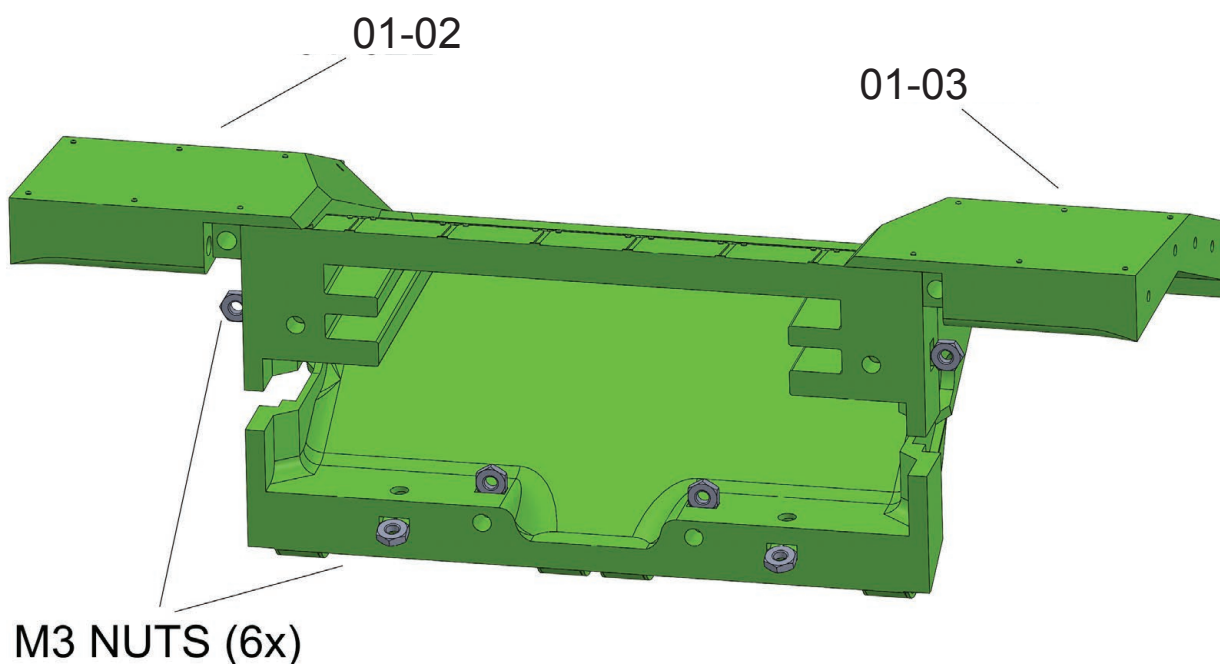
Assembly 01 (front of the hull)

step 1



Drill holes in part 01-01.
Use a drill bit with a diameter of 3 - 3.5mm.

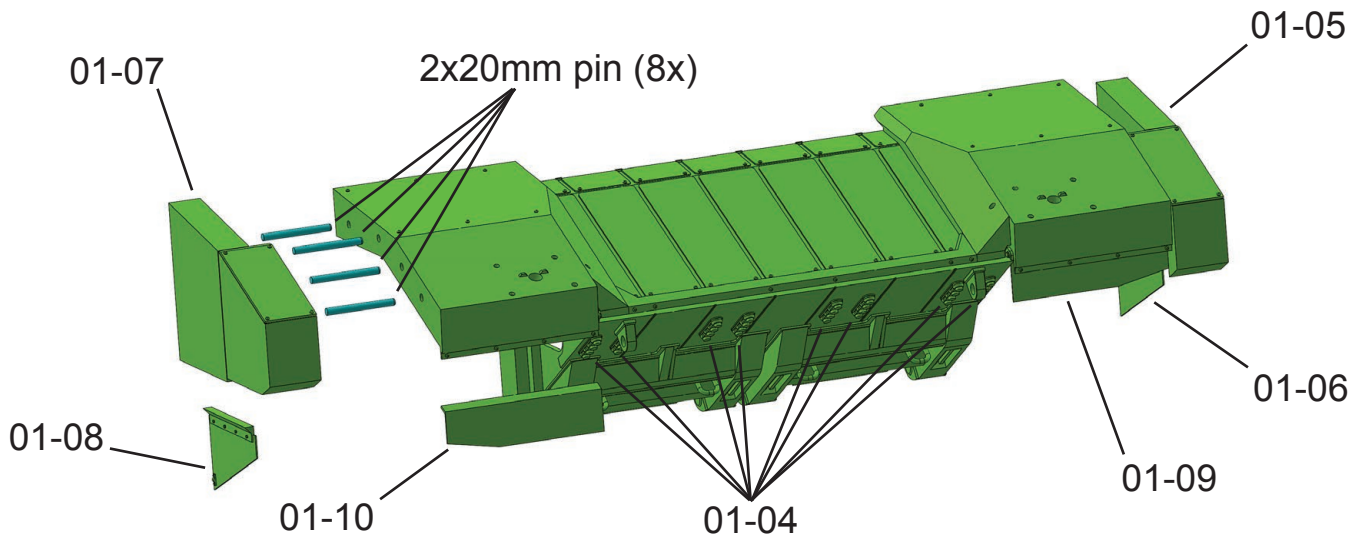
step 2



Insert the 6 M3 nuts into the corresponding holes. In the event of a nut falling out, it may be necessary to fix it with glue. Glue parts 01-02 and 01-03.

Assembly 01 (front of the hull)

step 3



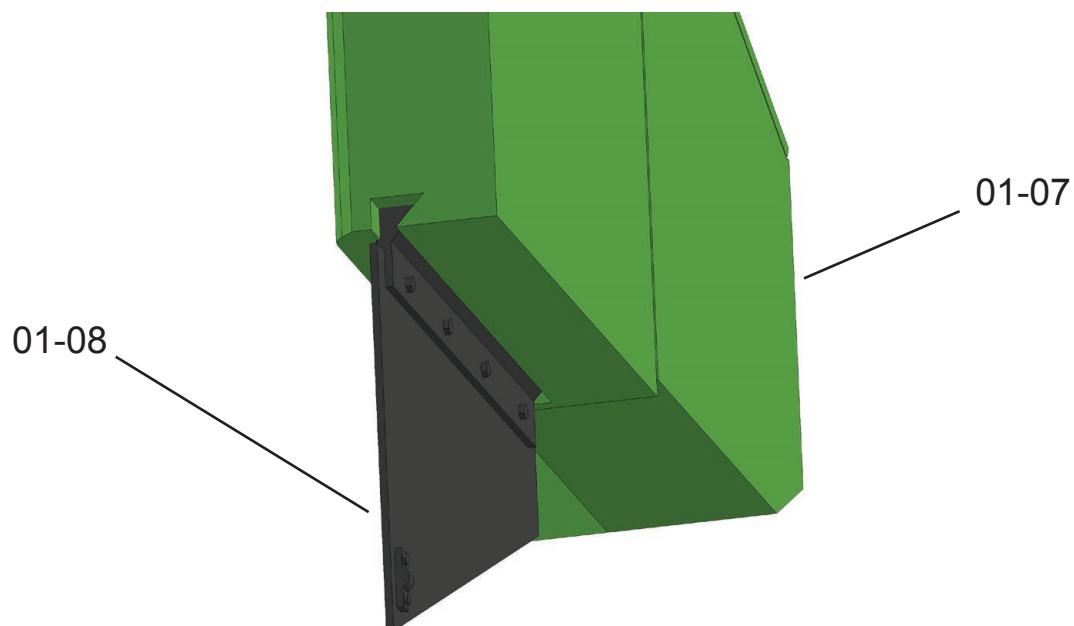
Glue 8 parts 01-04 to part 01-01.

Slide part 01-06 into the groove of part 01-05 as shown below. On the other side, do the same with parts 01-07 and 01-08.

Join the 01-05/01-07 assemblies to the rest of the block using four pins
- 2mm diameter and 20mm long. Secure with glue.

Glue parts 01-09 and 01-10.

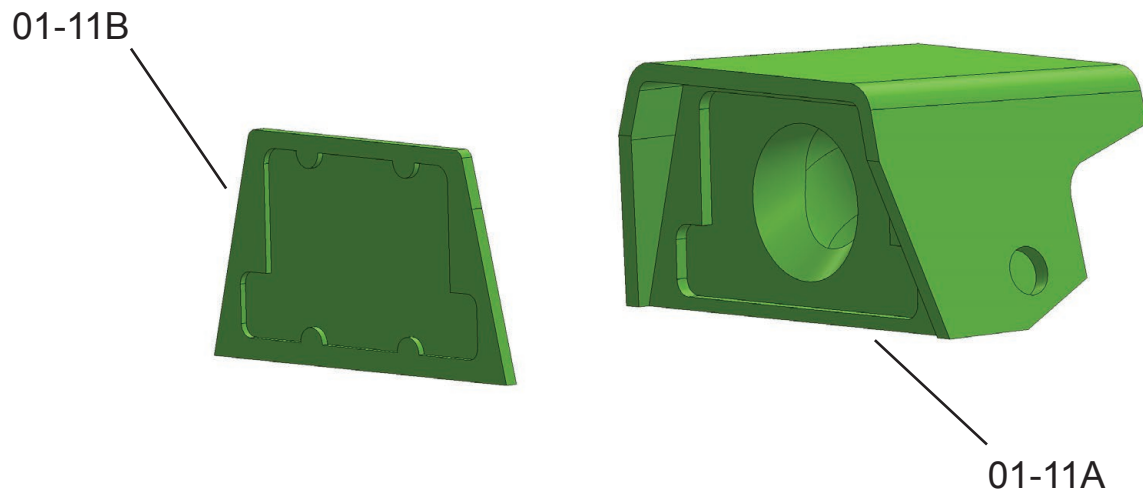
step 3 detail



Detail of the groove of parts 01-05 and 01-07.

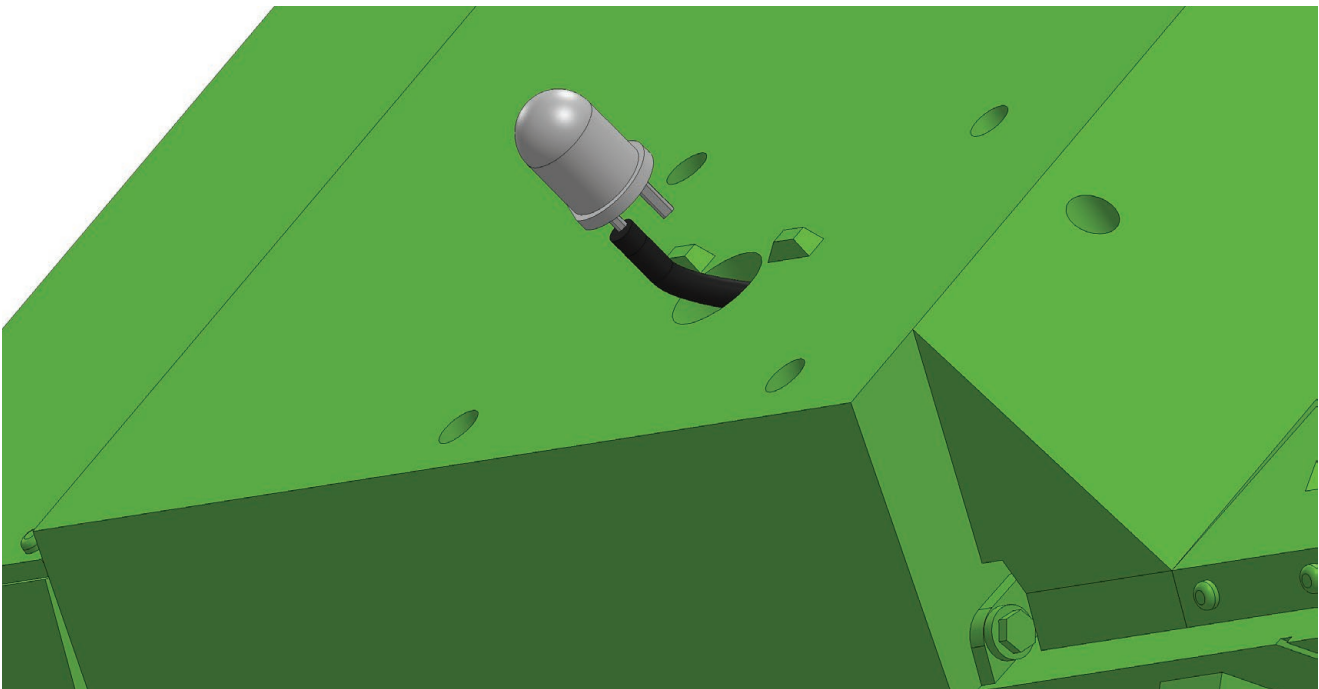
Assembly 01 (front of the hull)

step 4



Glue the cover of light 01-11B to light 01-11A.
Glue carefully, do not get the “glass” dirty with glue.

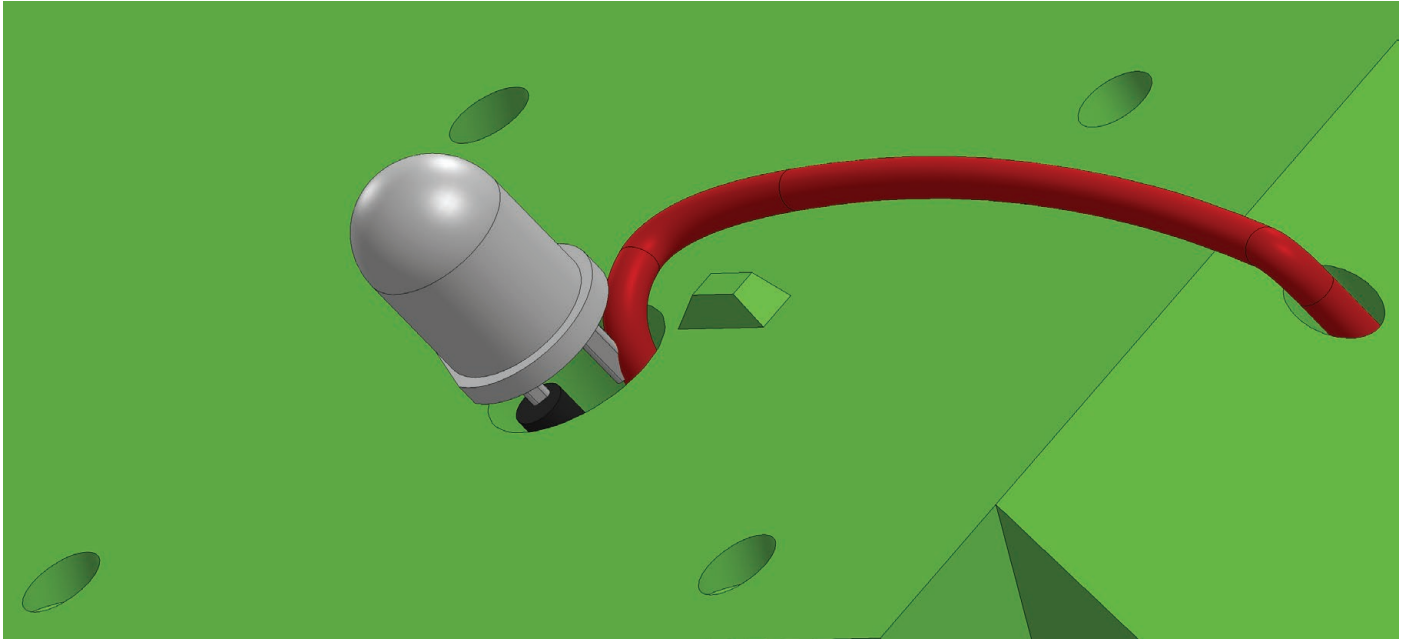
step 5



Solder the two wires to the diode. Push one through the hole in the picture.
Push the wire through the hole until it comes out on the other side of the fender.

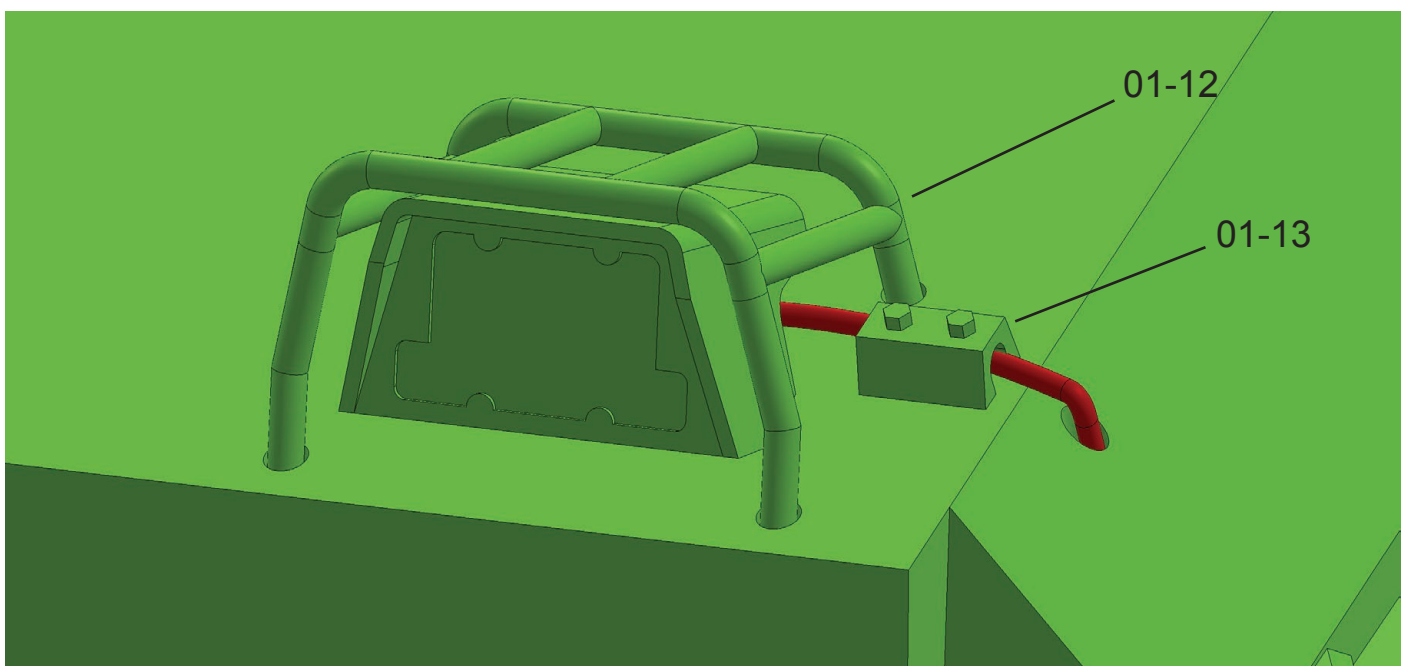
Assembly 01 (front of the hull)

step 6



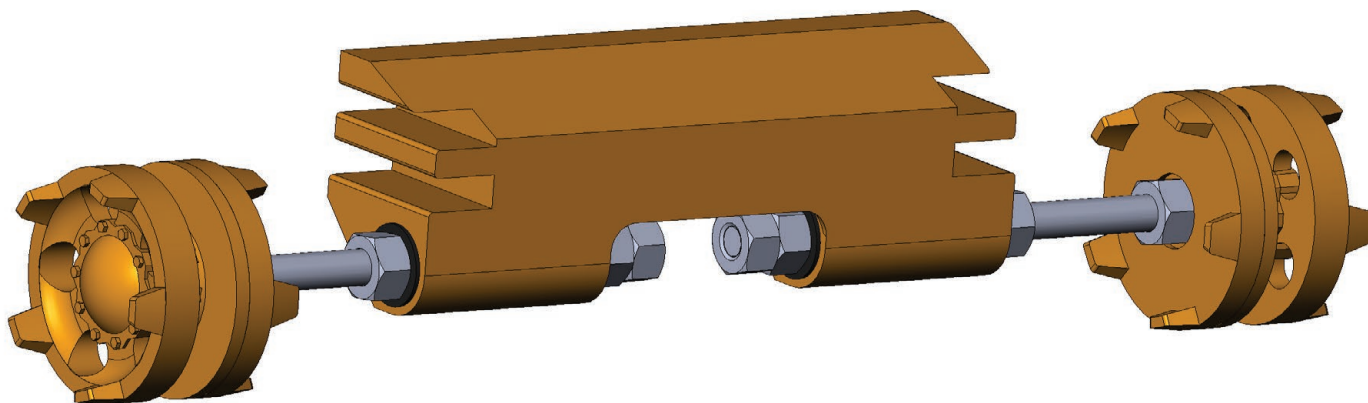
Push the second wire through the hole in the picture.
Push the wire through the hole until it comes out on the other side of the fender.
The wire will come out of a different hole than the first one.
The “tunnel” is much wider than its diameter at the entrance.

step 7



Finish the work on the lights. Attach assembly 01-11A/B and parts 01-12 and 01-13.

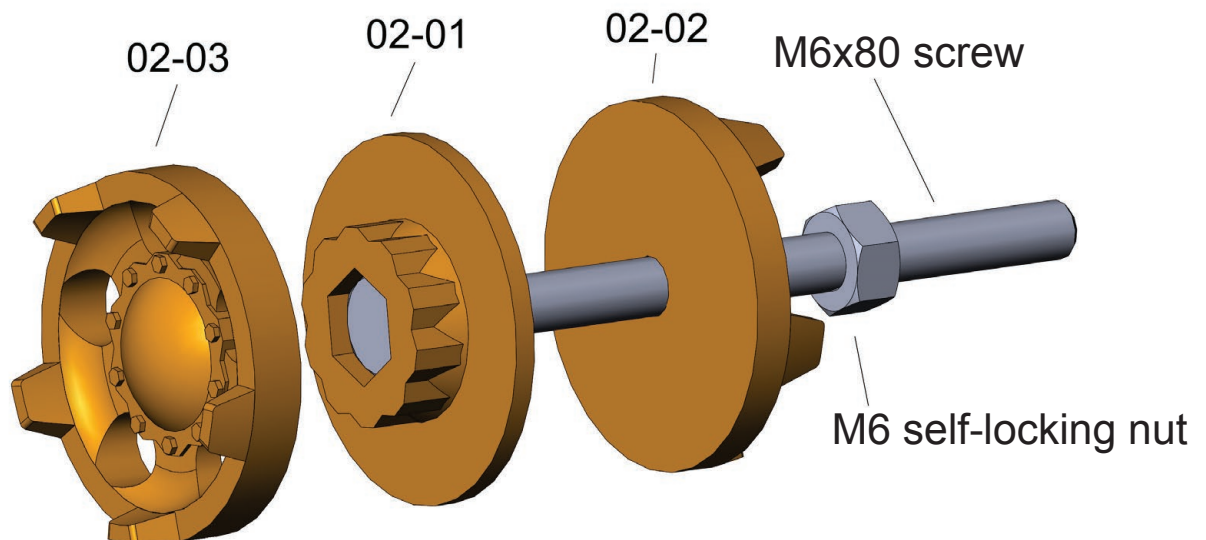
Assembly 02 (tension wheels)



AMOUNT:	1
PRINTED PARTS:	02-01(2x), 02-02 (2x) ,02-03 (2x), 02-04 (1x),
OPTIONAL PRINTED PARTS:	
NON-PRINTED PARTS:	M6x80 HEX screw (2x) , M6 NUTS - (8x), mf126zz bearing (4x)
OPTIONAL NON-PRINTED PARTS:	M6 SELF-LOCKING NUTS - (6x).

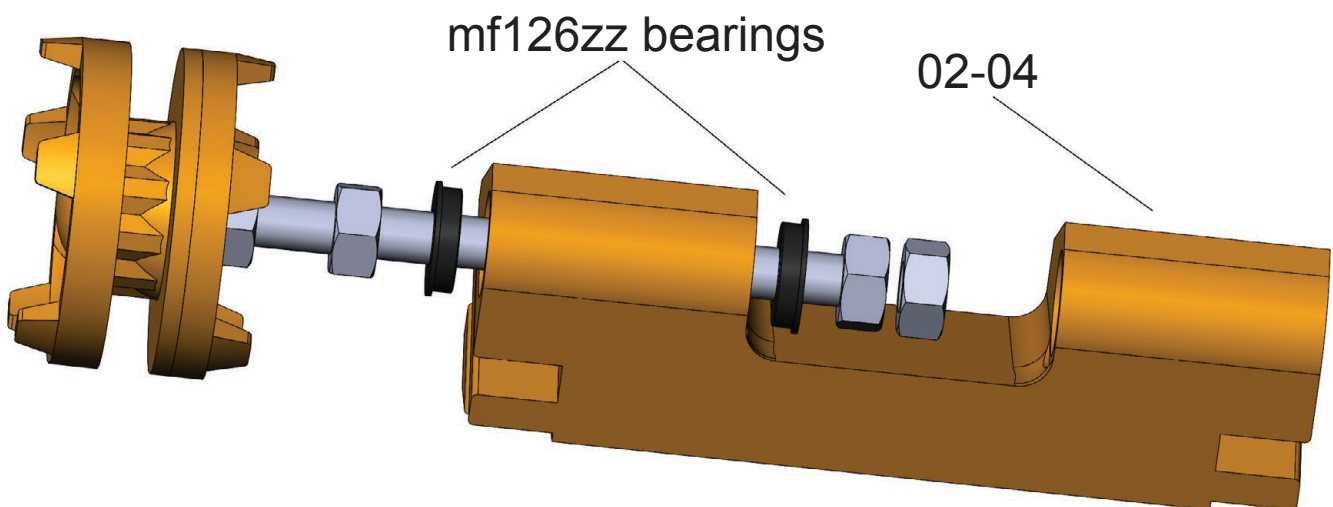
Assembly 02 (tension wheels)

step 1



Insert the M6x80 screw into part 02-01, add 02-02 and fix with the nut.
Use a self-locking nut. If you don't have one, secure the nut by dripping a superglue on it.
Glue part 02-03.

step 2



Insert the two mf126zz bearings into part 02-04 and the three nuts as shown in the picture.

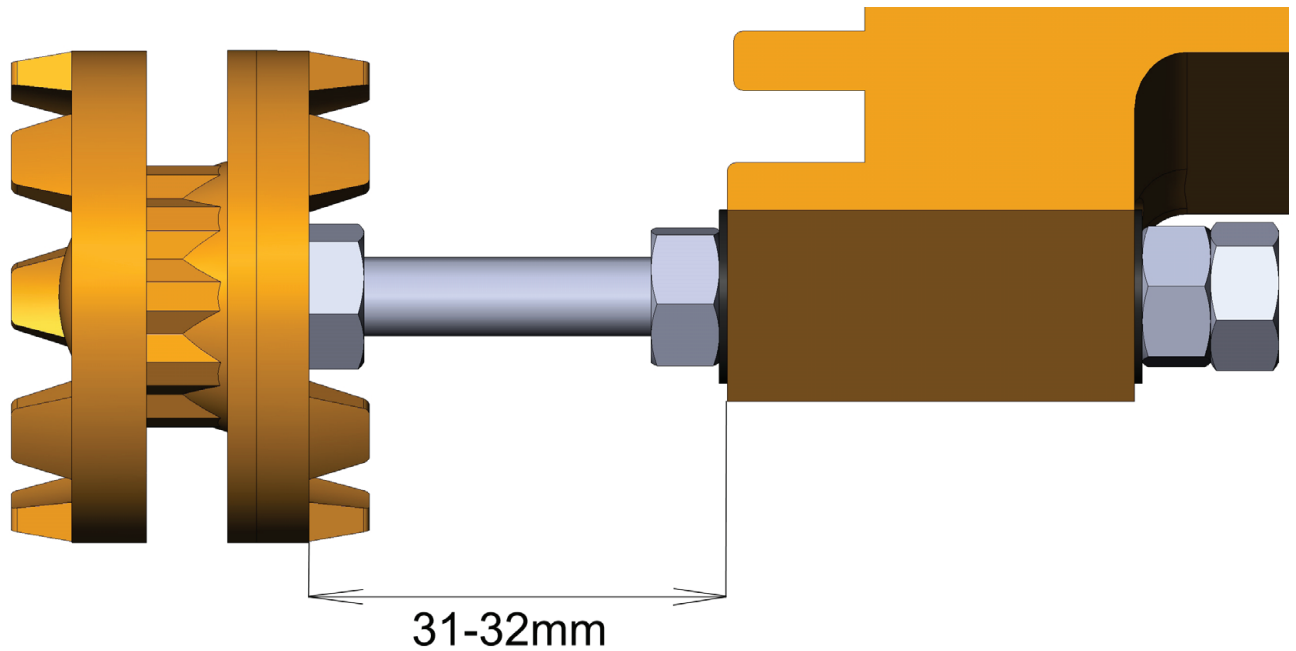
Tighten firmly. Secure the nut by dripping a superglue on it.

The two nuts on the inner end are very important.

Loosening them may damage the model.

Assembly 02 (tension wheels)

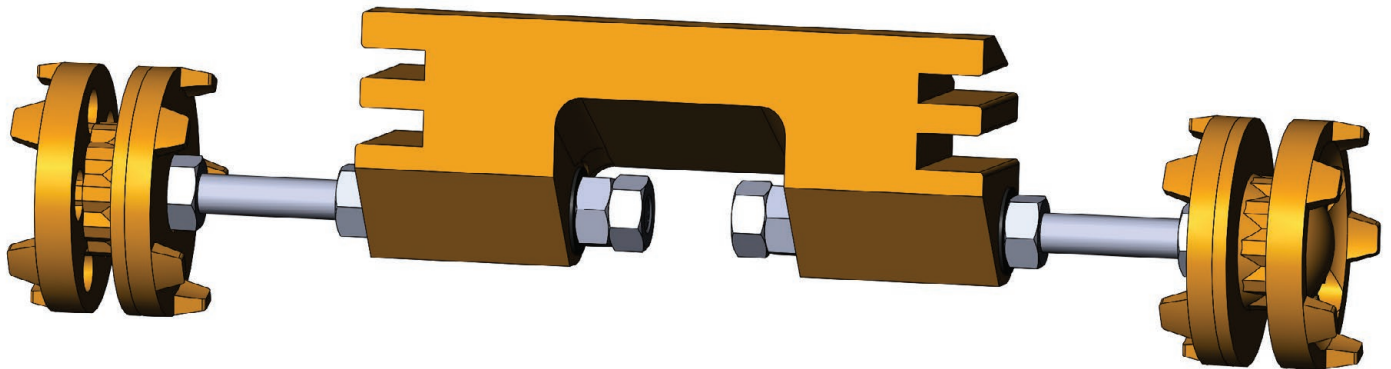
step 2 detail



Adjust the dimension according to the picture.

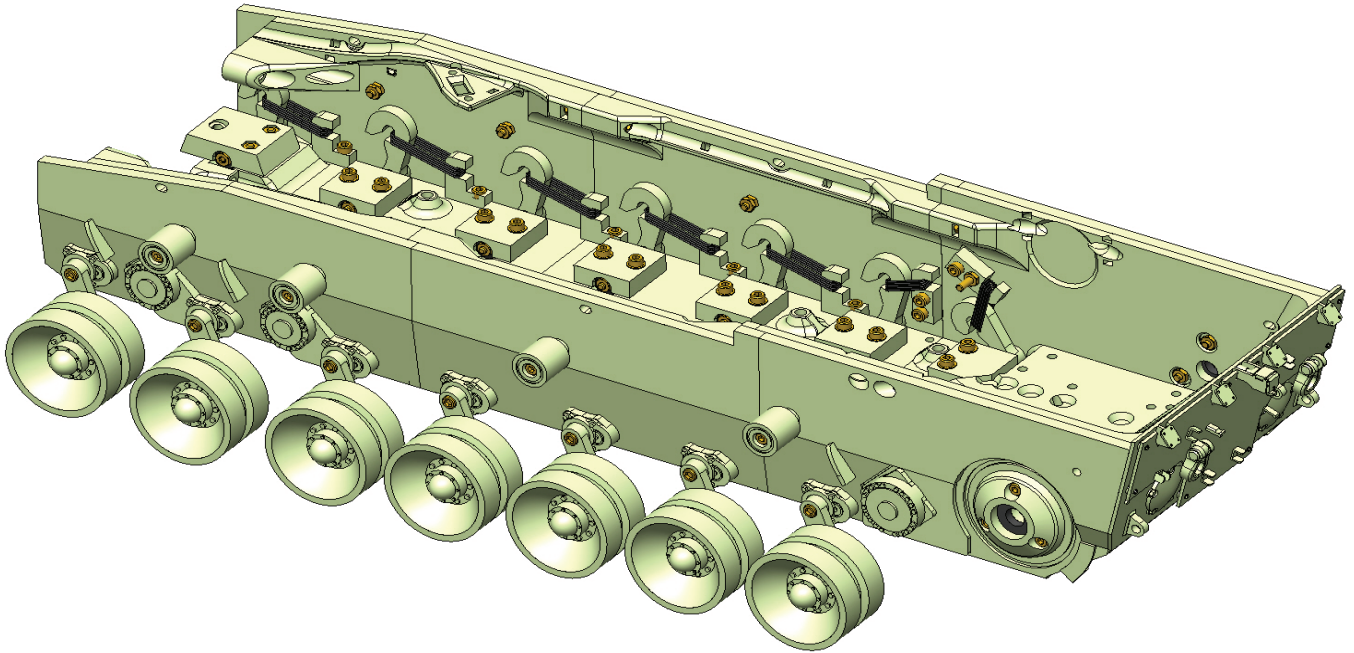
Later, when installing the tracks, the wheel position will be checked and possibly fine-tuned.

step 3



Repeat on the second side.

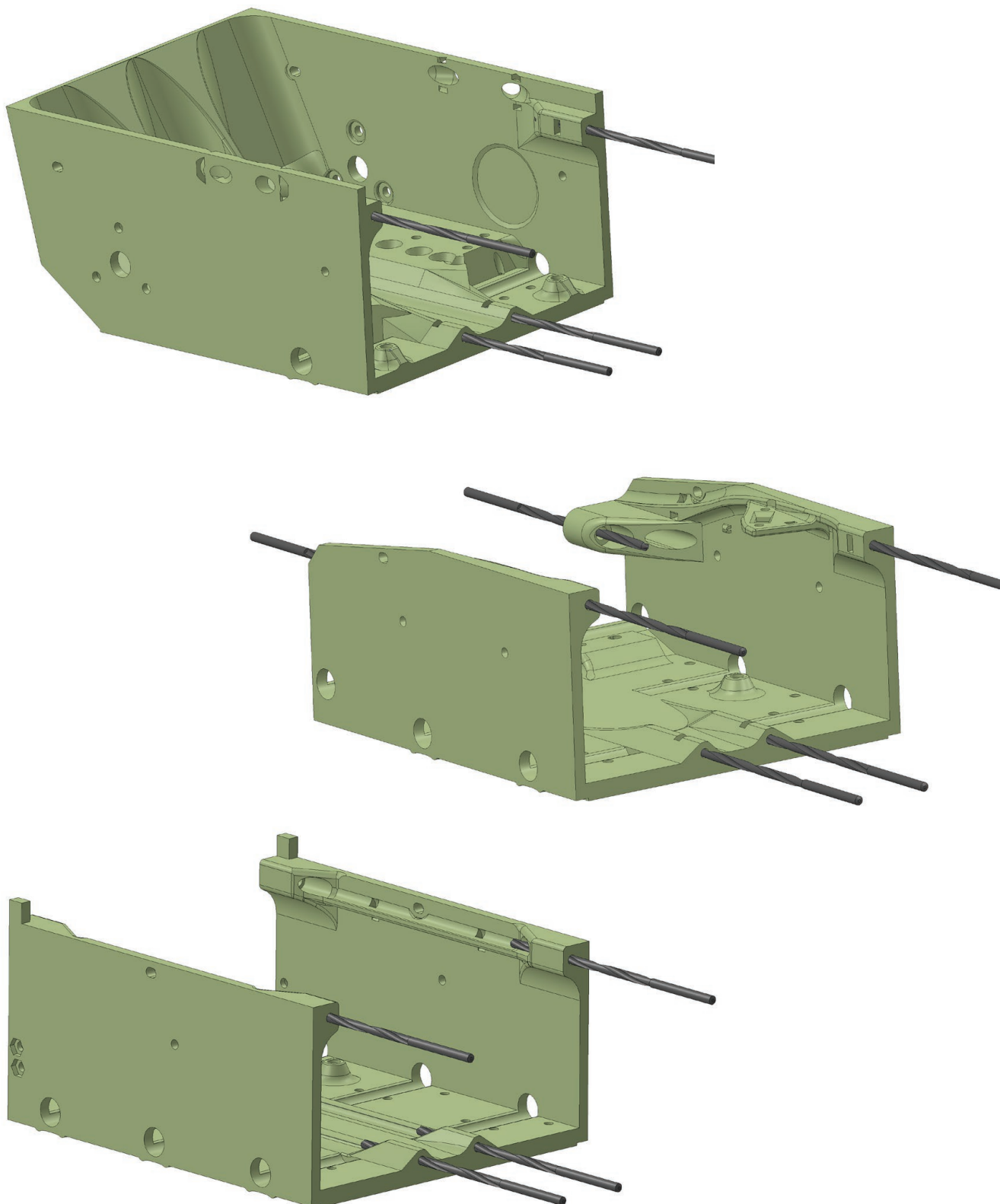
Assembly 03 (lower hull)



AMOUNT:	1
PRINTED PARTS:	03-01 (1x), 03-02 (1x), 03-03 (1x), 03-04 (1x), 03-05 (1x), 03-06 (1x), 03-07 (1x), 03-08 (1x), 03-09 (1x), 03-10 (1x), 03-11 (1x), 03-12 (2x), 03-13 (2x), 03-14L (1x), 03-14R (1x), 03-15 (8x), 03-16A (14x), 03-16B (14x), 03-17A (14x), 03-17B (14x), 03-18 (14x), 03-19L (1x), 03-20L (6x), 03-19R (1x), 03-20R (6x), 03-21L A (1x), 03-21L B (1x), 03-21R A (1x), 03-21R B (1x), 03-22 (2x), 03-23L A (4x), 03-23L B (4x), 03-23R A (4x), 03-23R B (4x), 03-24 (10x), 03-25L A (1x), 03-25L B (1x), 03-25R A (1x), 03-25R B (1x), 03-26L A (1x), 03-26L B (1x), 03-26R A (1x), 03-26R B (1x), 03-27L (1x), 03-27R (1x).
OPTIONAL PRINTED PARTS:	03-01_NO_BASE (1x), 03-02_NO_BASE (1x), 03-03_NO_BASE (1x), 03-10A_alt (1x), 03-10A_alt (1x), 03-15_alt (8x), 03-16_alt (14x), 03-17_alt (14x), 03-21L_alt (1x), 03-21R_alt (1x), 03-23L_alt (4x), 03-23R_alt (4x), 03-25L_alt (1x), 03-25R_alt (1x), 03-26L_alt (1x), 03-26R_alt (1x).
NON-PRINTED PARTS:	M3x6 screw (6x), M3x10 screw (18x), M3x12 screw (36x) , M3x16 screw (4x), M3x20 screw (14x), M3x25 screw (2x), M3x30 screw (12x), M3x40 (2x), M3x50 screw (14x) , M3 LOW PROFILE NUTS (28x), M3 NUTS (138x), M3 washer (56x) mf148zz bearing (2x), 623zz bearing (56x)
OPTIONAL NON-PRINTED PARTS:	M3x8 screw (14x), M3x30 screw (2x), M3 NUTS (4x), 623zz bearing (16x)

Assembly 03 (lower hull)

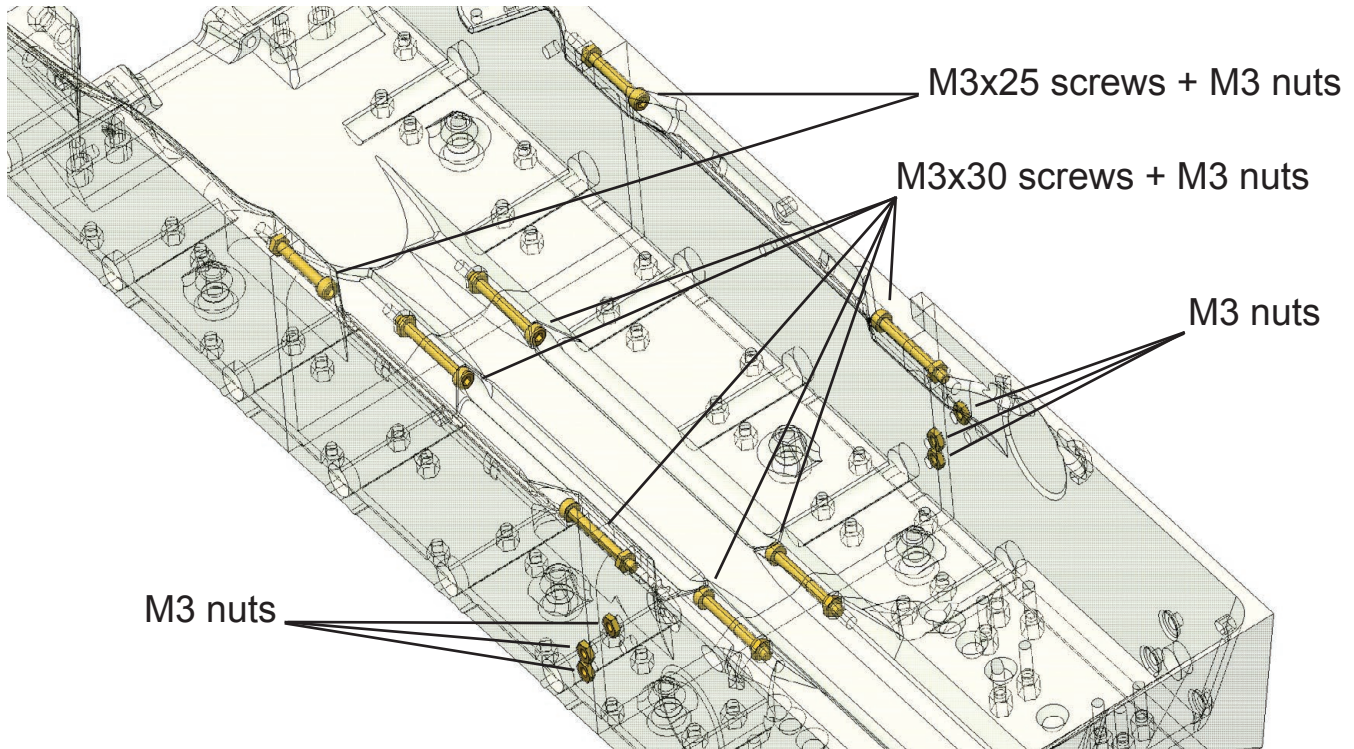
step 1



Drill the screw holes in parts 03-01, 03-02 and 03-03.
Use a drill bit with a diameter of 3 - 3,5mm.

Assembly 03 (lower hull)

step 2



Screw in parts 03-01, 03-02 and 03-03.

Use 6 screws M3x30mm according to the picture.

Use two M3x25mm screws in the upper front part of the hull.

Secure the screws with nuts. Accurately fit all parts together and tighten.

step 2 detail



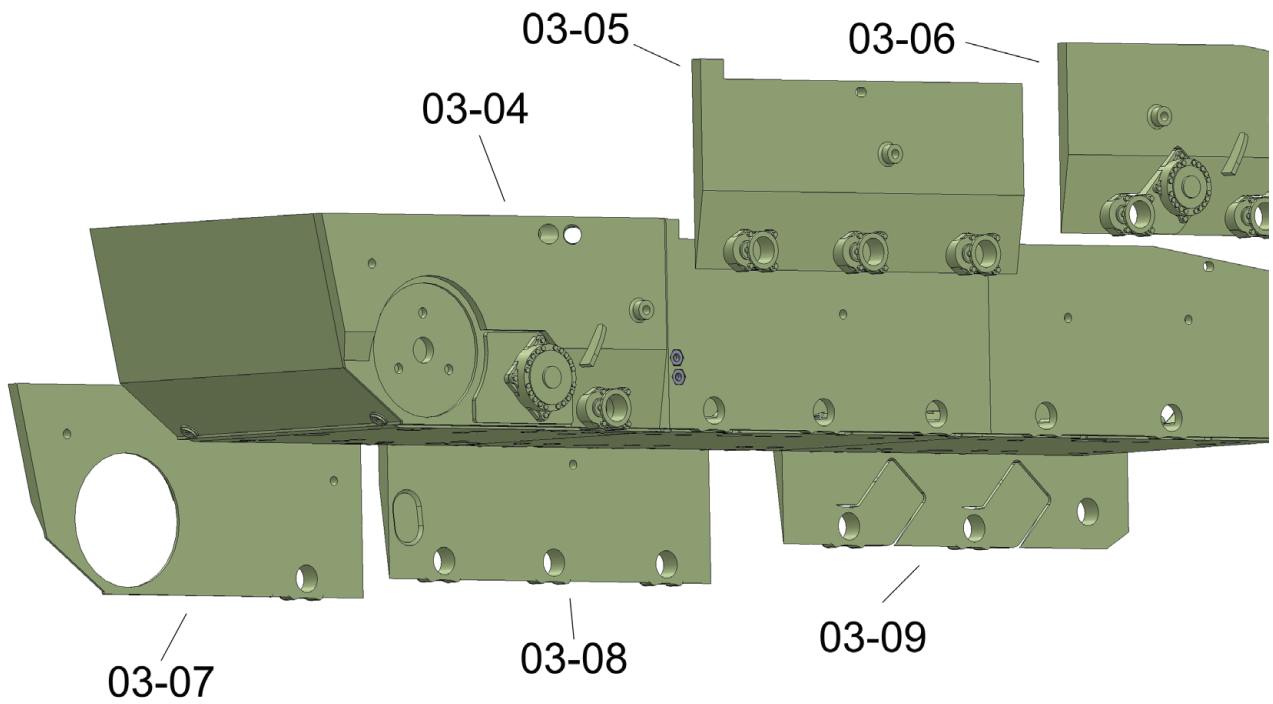
Don't forget to insert 6 very important M3 nuts (low profile recommended) !!!

You will not be able to insert them later.

They are necessary for the function of the model.

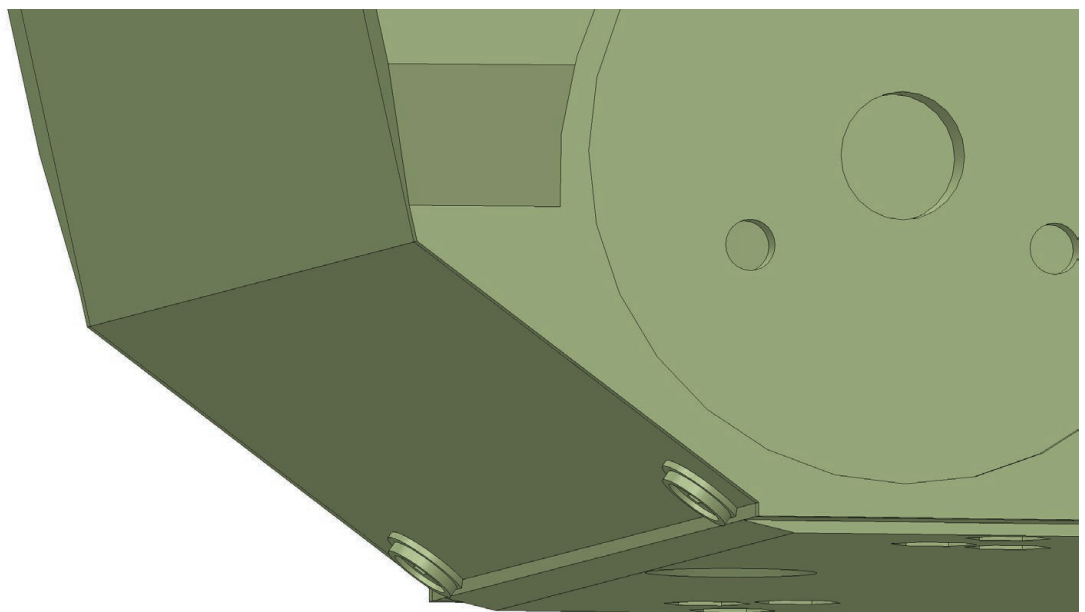
Assembly 03 (lower hull)

step 3



Glue the 6 parts as shown in the picture. Start from the back parts and accurately fit with the edges of part 03-03. Make sure all holes are aligned exactly.

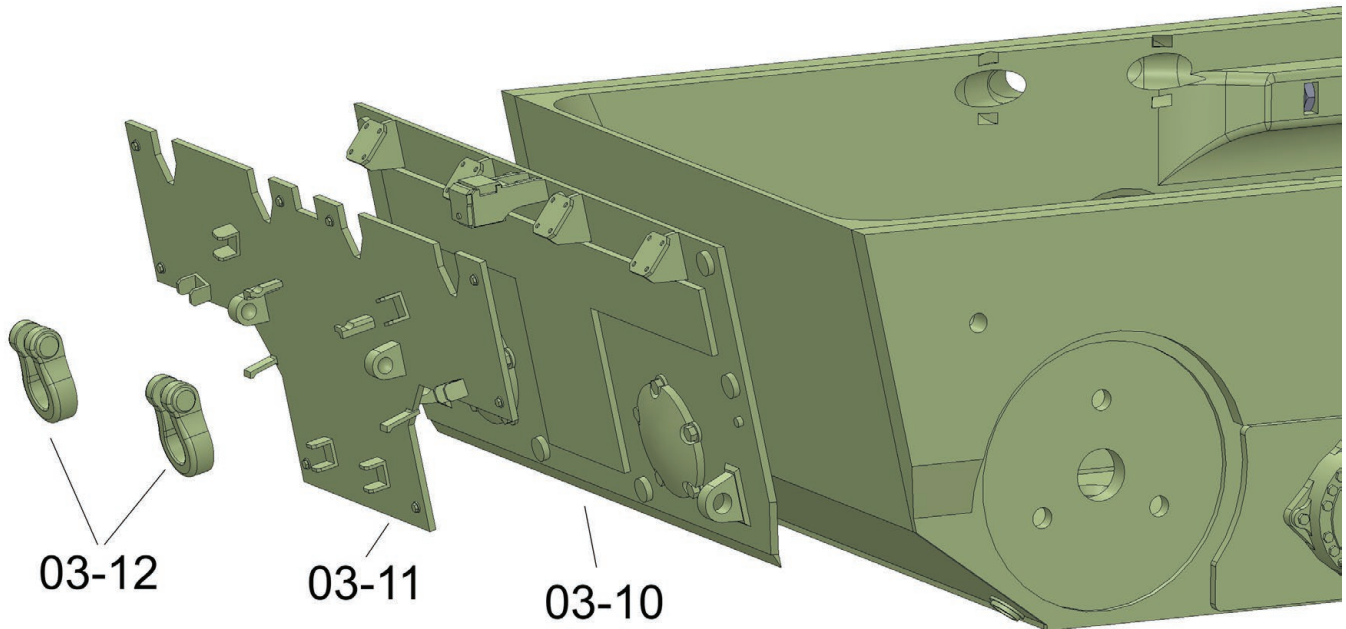
step 3 detail



Detail of the alignment of parts 03-03 and 03-04.

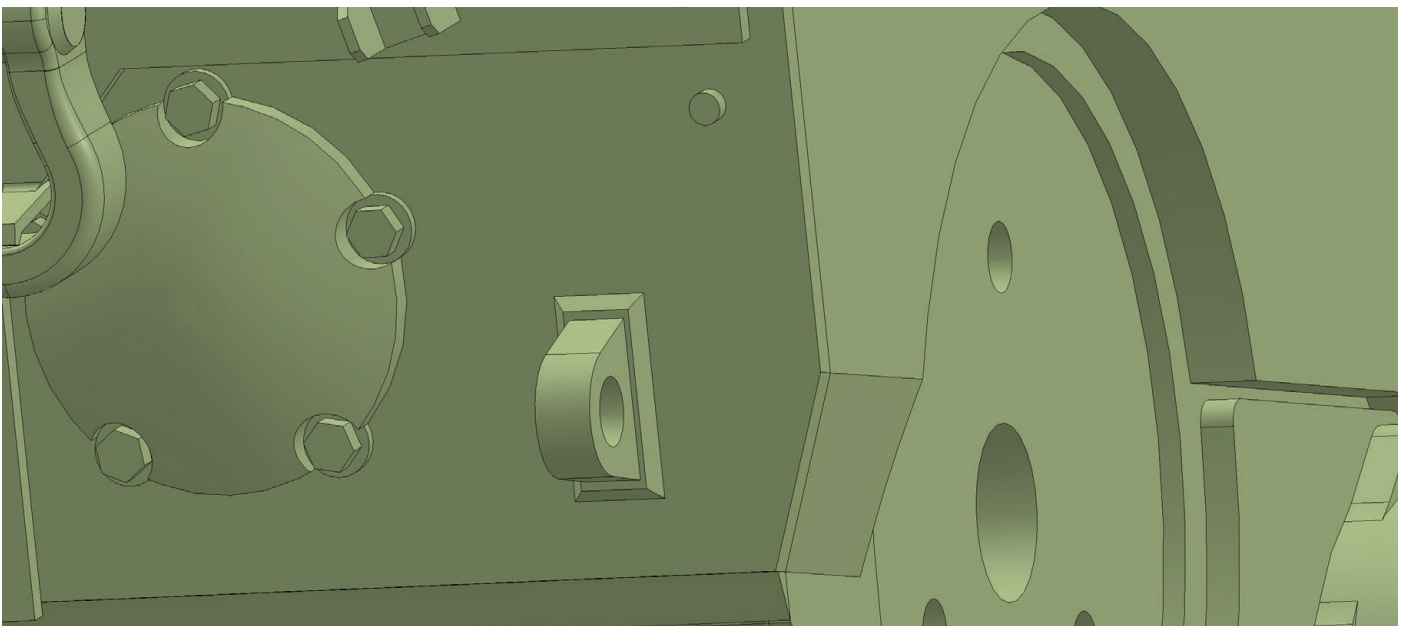
Assembly 03 (lower hull)

step 4



Glue parts 03-10 and 03-11 as shown.
Align precisely with the edges of parts 03-04 and 03-07.
It is not necessary to glue parts 03-12.

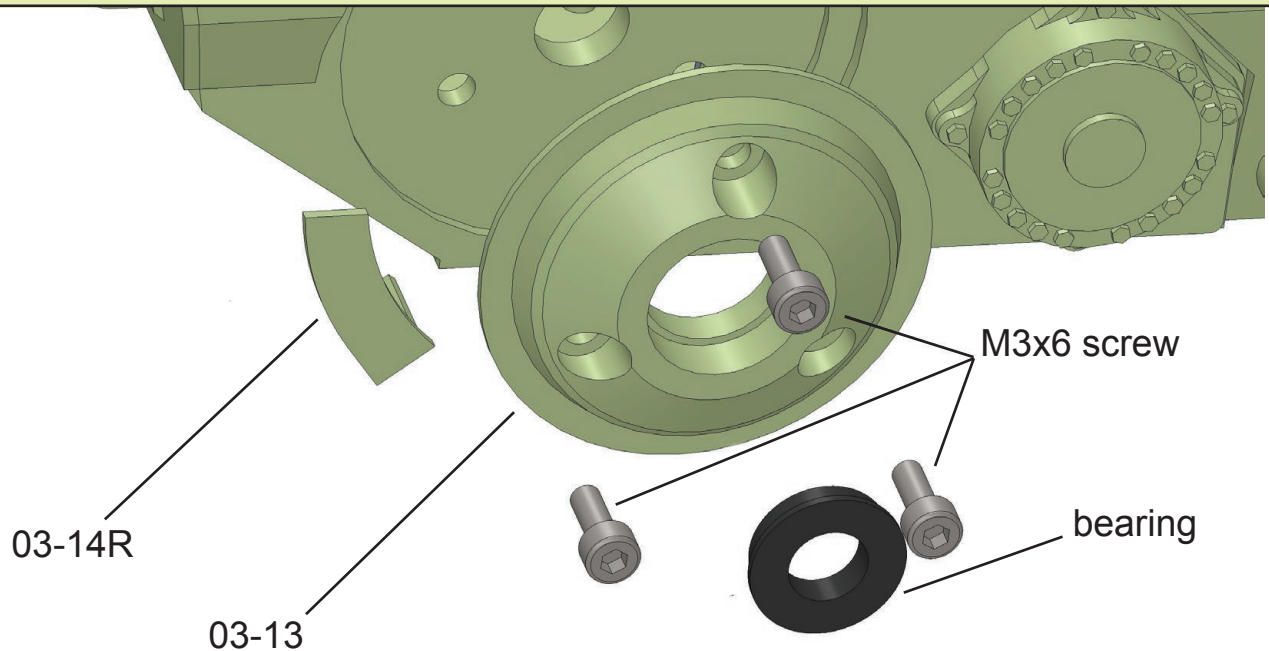
step 4 detail



Detail of the alignment of parts 03-04 and 03-10.

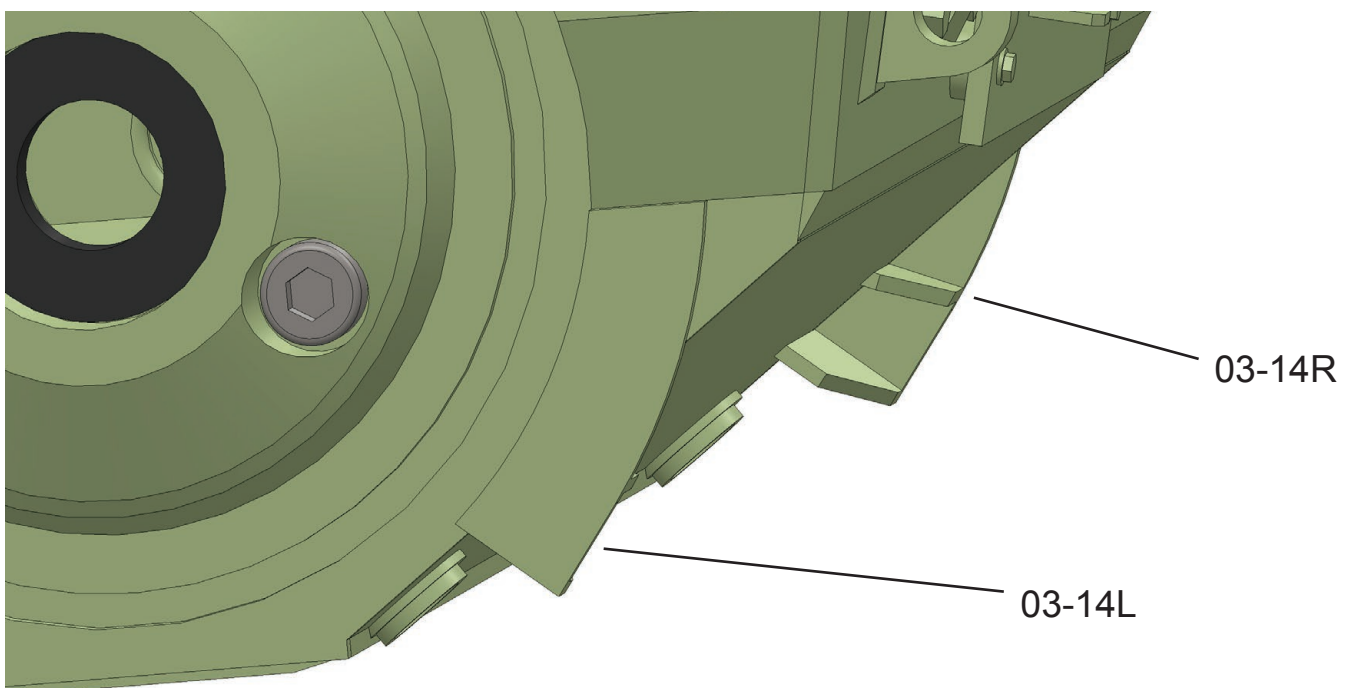
Assembly 03 (lower hull)

step 5



Insert bearing mf148zz into part 03-13. Fix with three M3x6mm screws and M3 nuts.
Repeat on the other side with the same parts.
Glue parts 03-14L and 03-14R.

step 5 detail

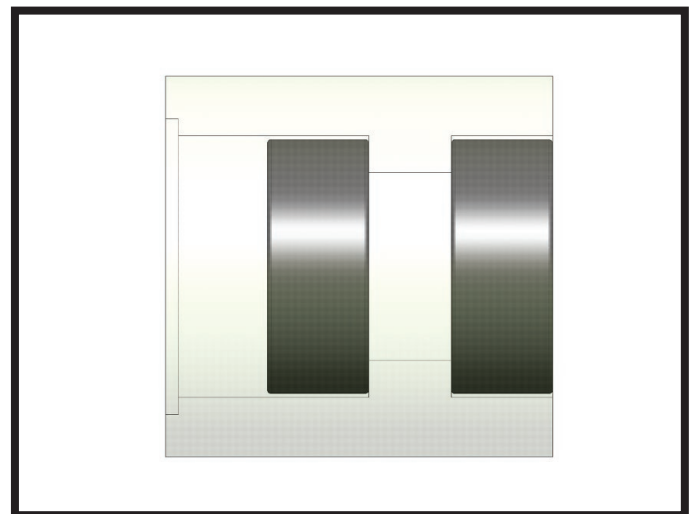
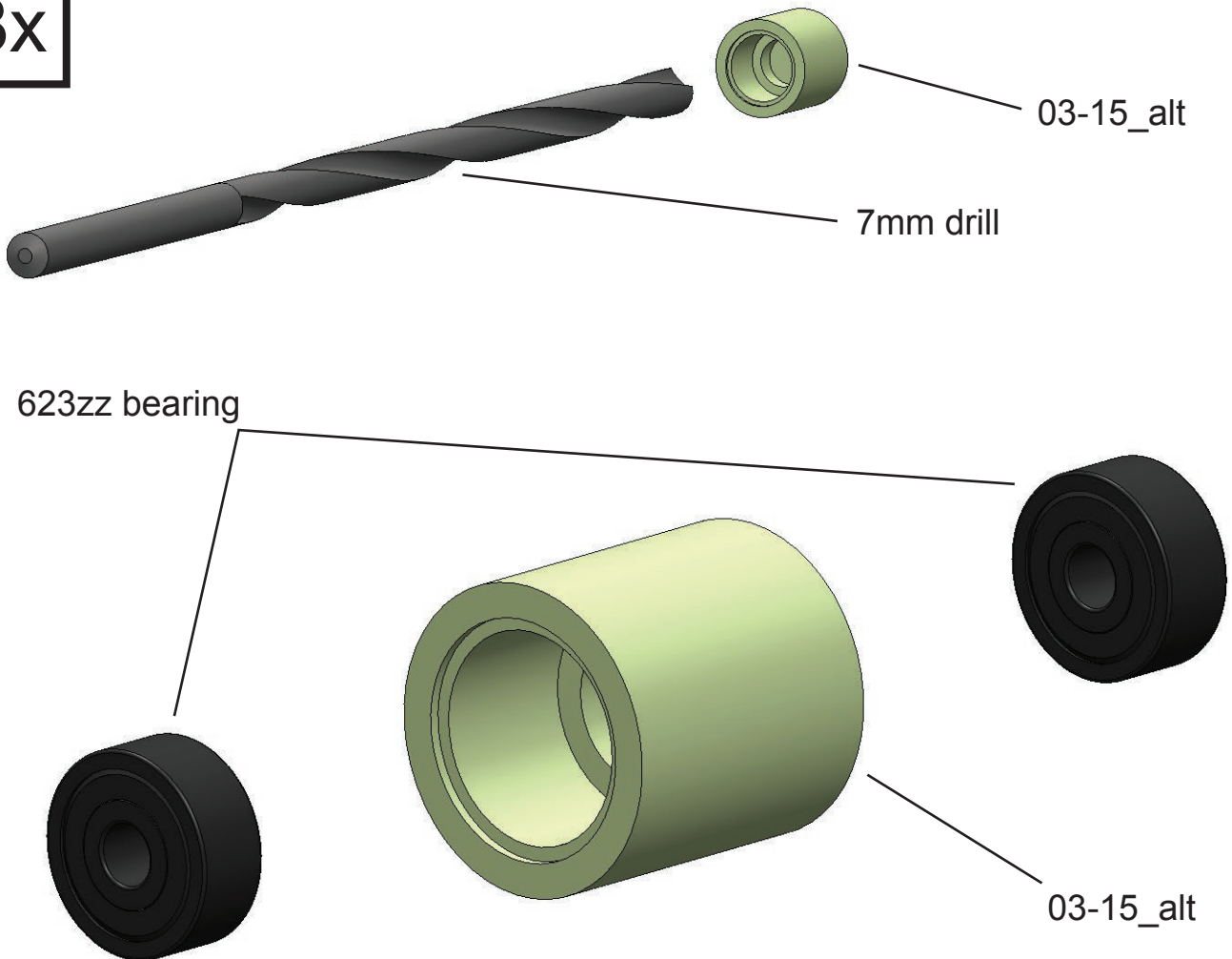


Detail of parts 03-14L and 03-14R.

Assembly 03 (lower hull)

alternative version of the idler

8x



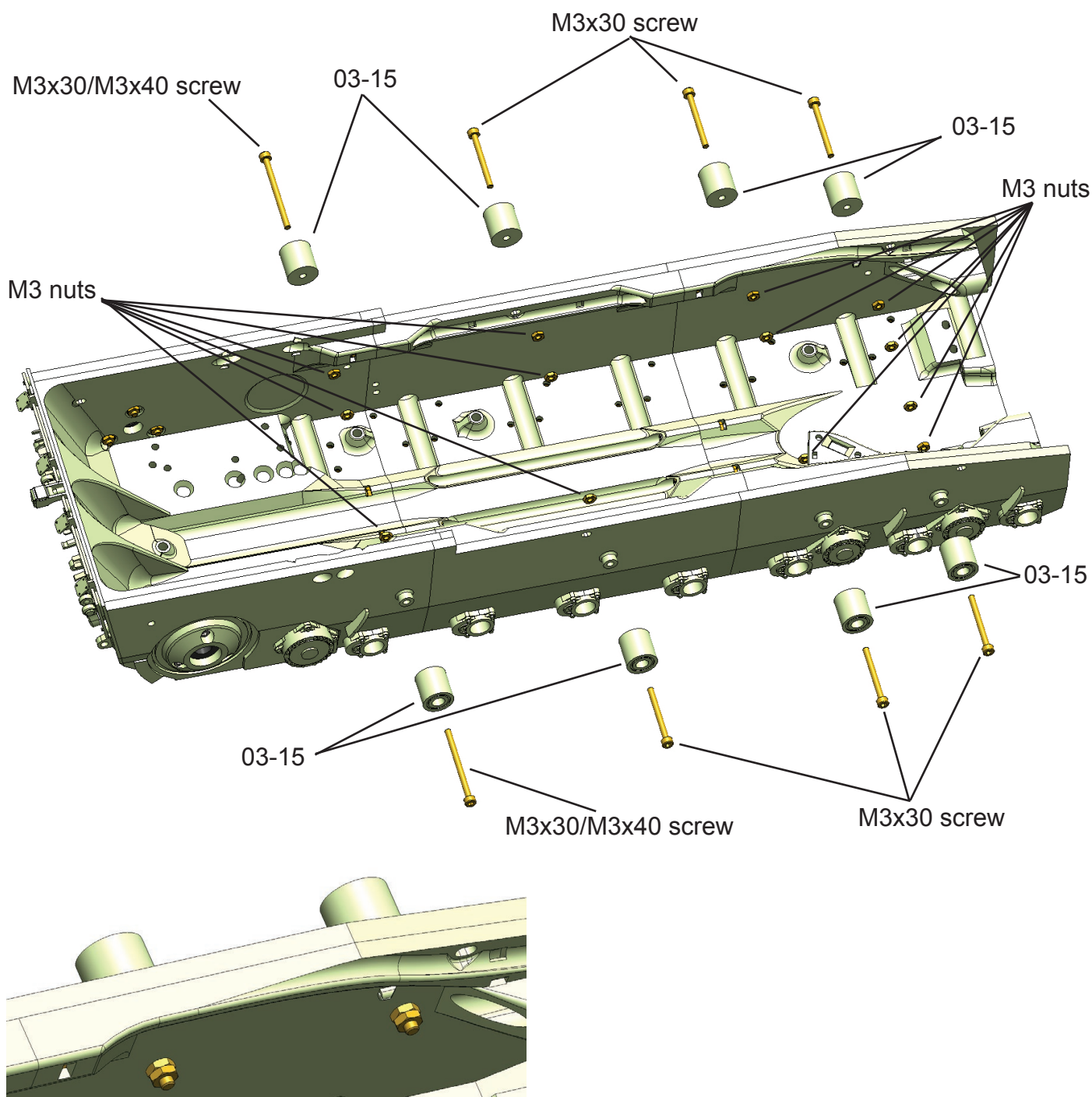
Standard idlers do not contain bearings.

If you are interested in a version with bearings, use alternative part 03-15_alt.

Drill the parts with a 7mm diameter drill bit and press 2 pieces of 623zz type bearings into each.

Assembly 03 (lower hull)

step 6



Fasten the 8 parts 03-15 with screws.

Use M3x30 screws for the 6 front idlers. Use M3x40 screws for the 2 rear idlers. If you plan to use a second (alternative) type of suspension, you can also use M3x30 screws for the rear idlers.

It is very important to use two nuts as in the picture. Secure the nuts tightly.

In case of loosening the screw, the model may be damaged.

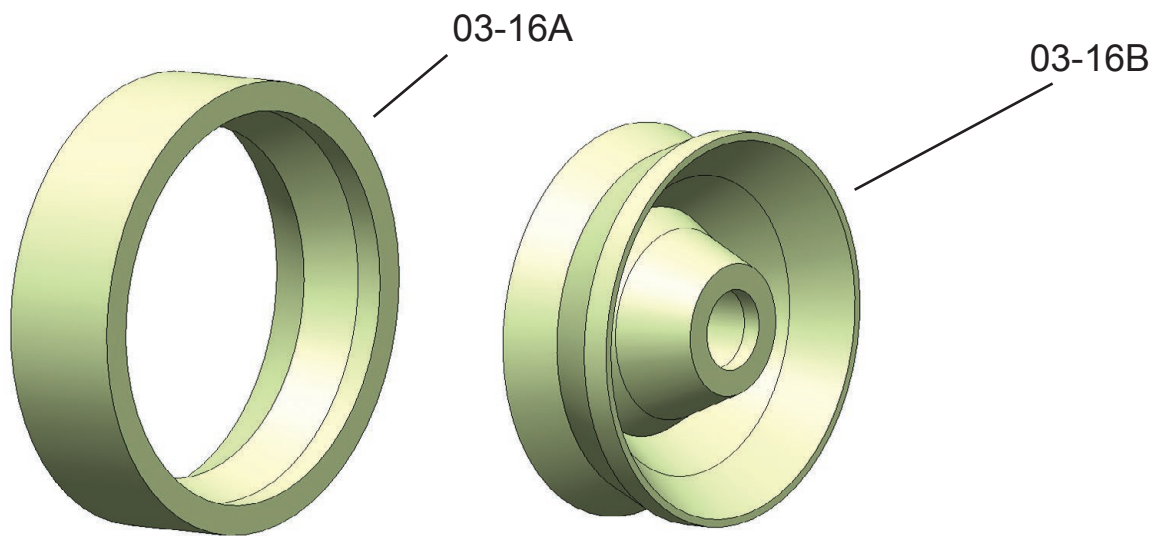
We recommend to use washers as well.

Make sure that the idlers rotate freely.

Assembly 03 (lower hull)

step 7

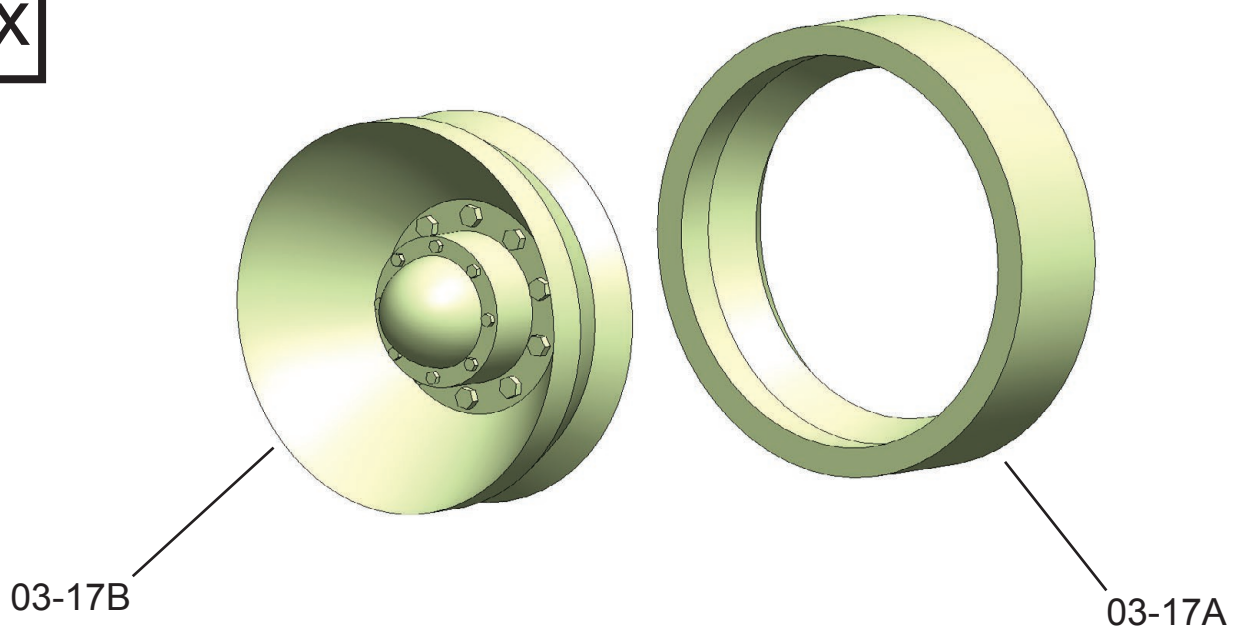
14x



Fit rubber parts 03-16A onto parts 03-16B.

step 8

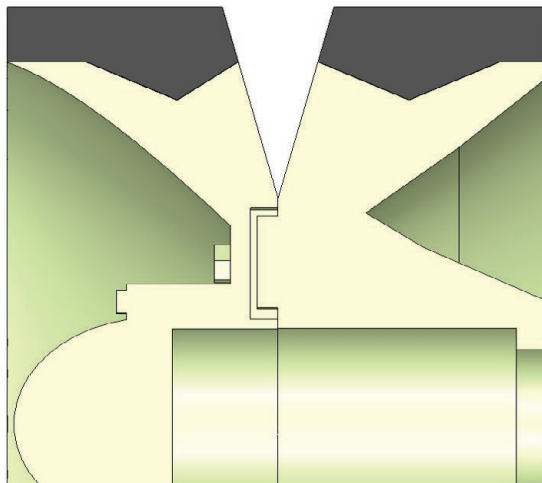
14x



Fit rubber parts 03-17A onto parts 03-17B.

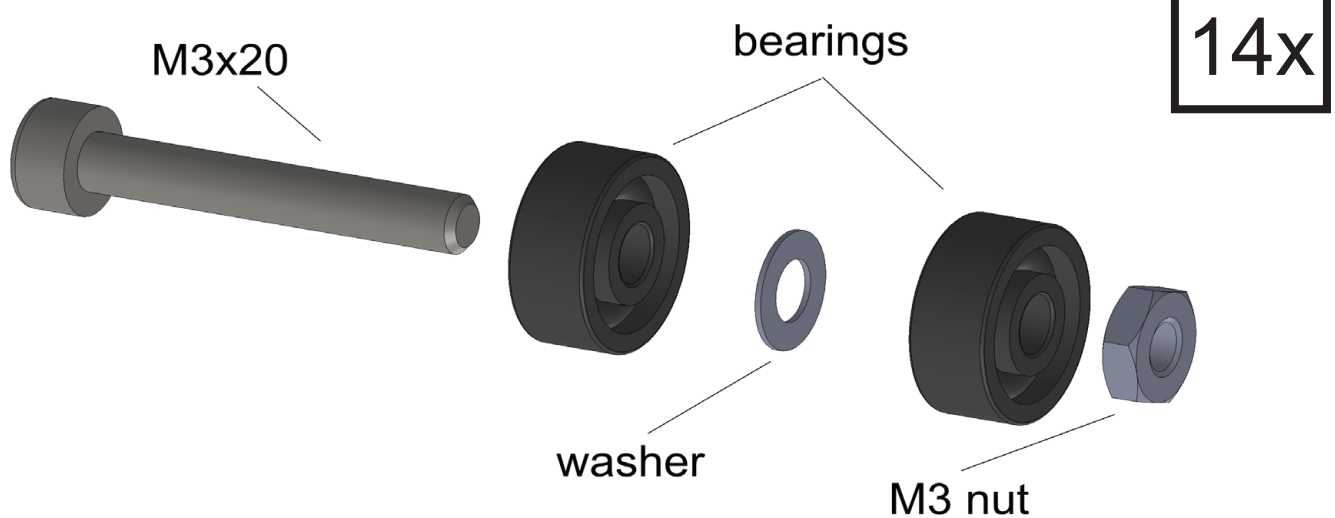
Assembly 03 (lower hull)

step 8 detail



Beware of confusion of parts! The figure shows a cross section of the wheel.
Note the difference between 03-16A and 03-17A.

step 9



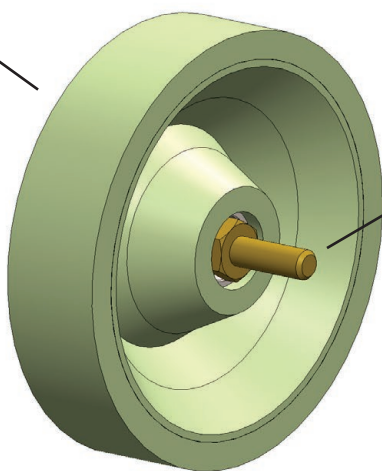
Assemble the wheel axle.
Install the 623zz bearings,
washer and nut onto the M3x20 screw in the following order.
Tighten securely.

Assembly 03 (lower hull)

step 10

14x

03-16A + 03-16B

Wheel axis from the
previous step

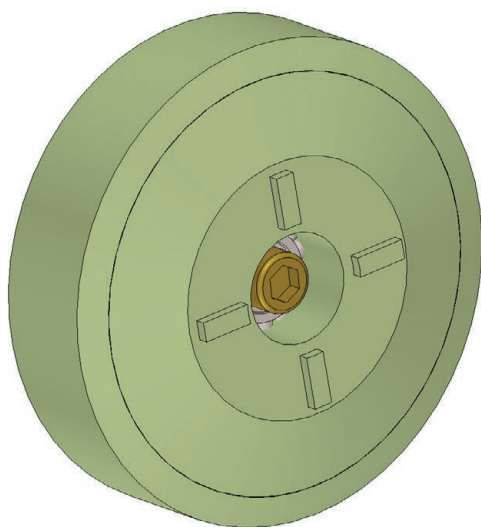
Press the assembled axis into part 03-16B.

Make sure that the axle rotates well and holds firmly in the wheel.

step 11

14x

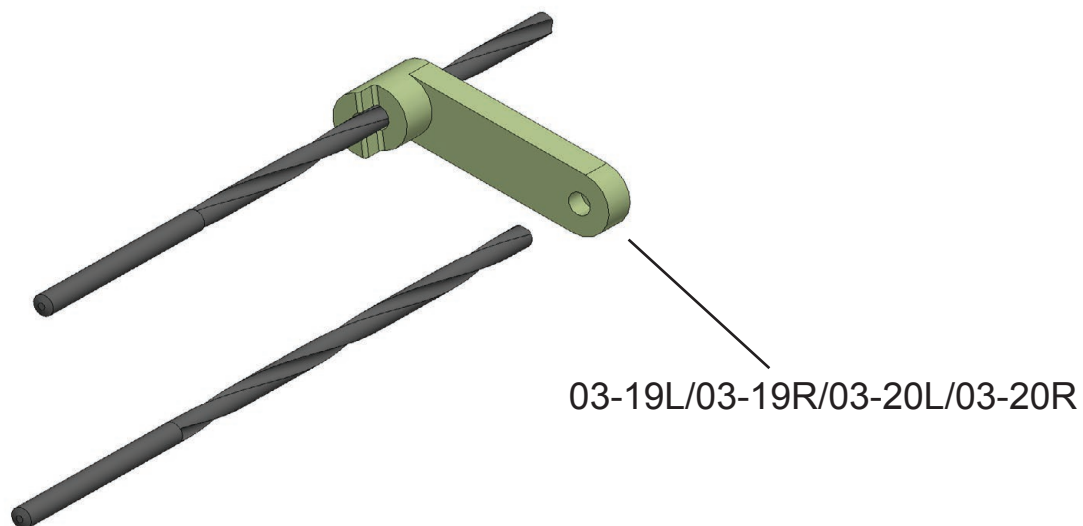
03-18



Insert part 03-18 into each wheel.
This will fix the position of the bearing in the wheel.

Assembly 03 (lower hull)

step 12

14x

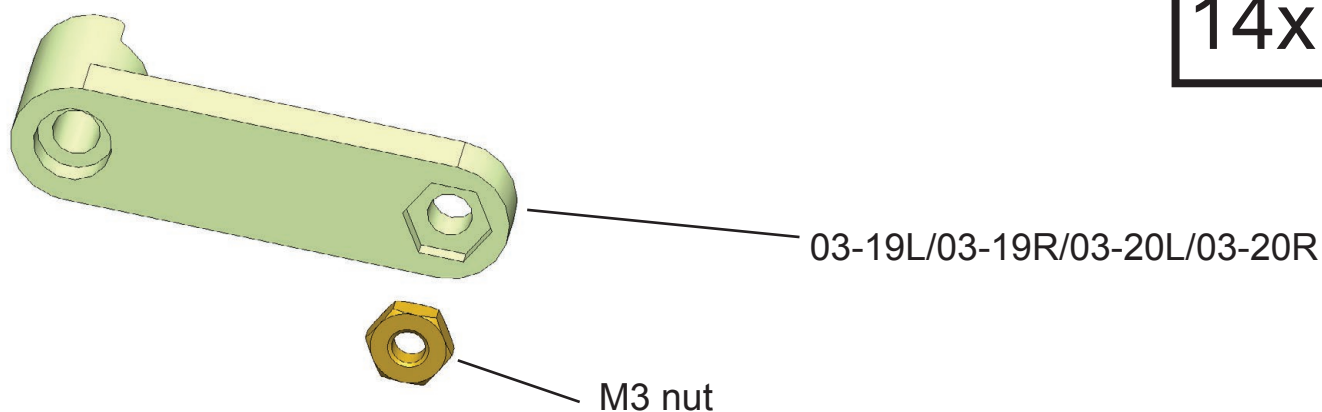
Drill holes in all parts of 03-19L, 03-19R, 03-20L and 03-20R.

Use a 3mm diameter drill bit.

Parts 03-19L and 03-19R are slightly longer than 03-20L and 03-20R.

You can recognize them by that.

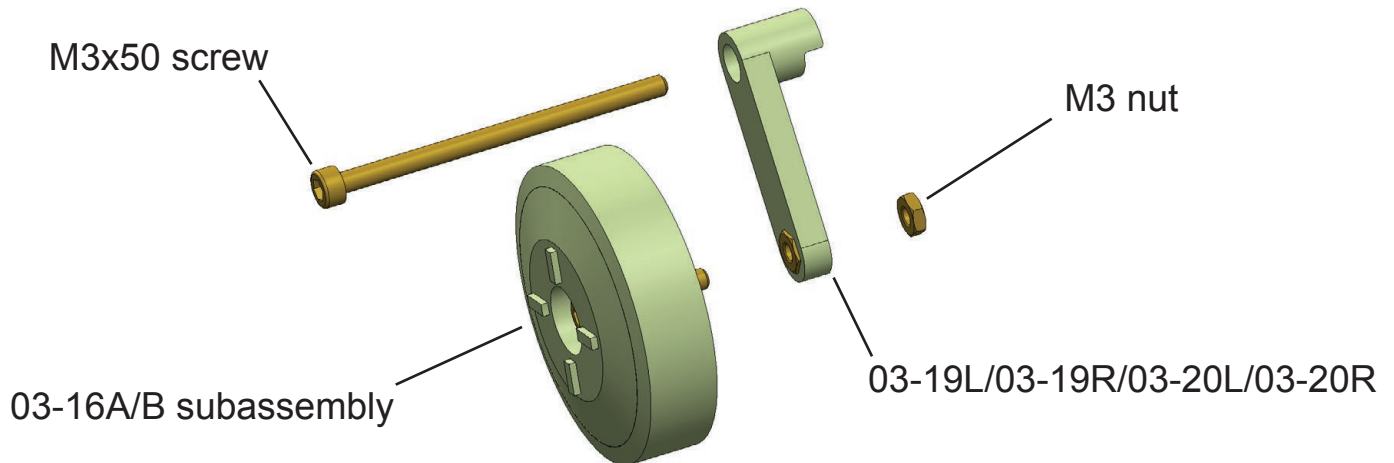
step 13

14x

Insert nuts into all parts (03-19L, 03-19R, 03-20L and 03-20R).

Assembly 03 (lower hull)

step 14

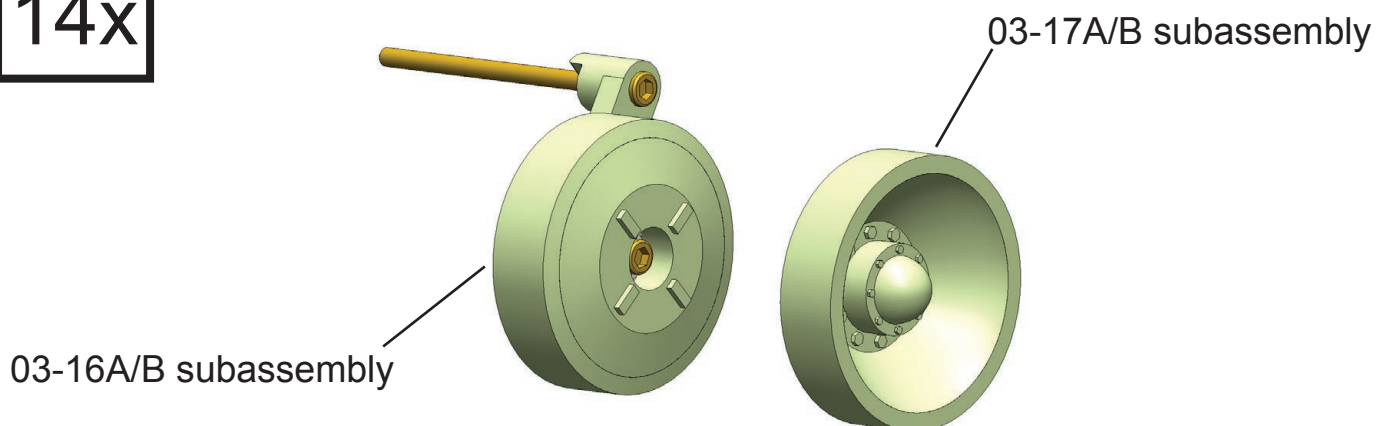


Connect the parts as shown. Secure the swing arms with the M3 nut.
Secure the nut against falling out. You can use a drop of superglue.
 There should be a gap of 1-2,5mm between the wheel and swing arms.
 Check that the wheel does not touch the suspension when moving.
 Prepare the M3x50 screws in the swing arms.

Connect one wheel to part 03-19L. Six wheels with part 03-20L.
 Connect one wheel to part 03-19R and six wheels to part 03-20R.
 After assembly, be careful not to mix up the parts.

step 15

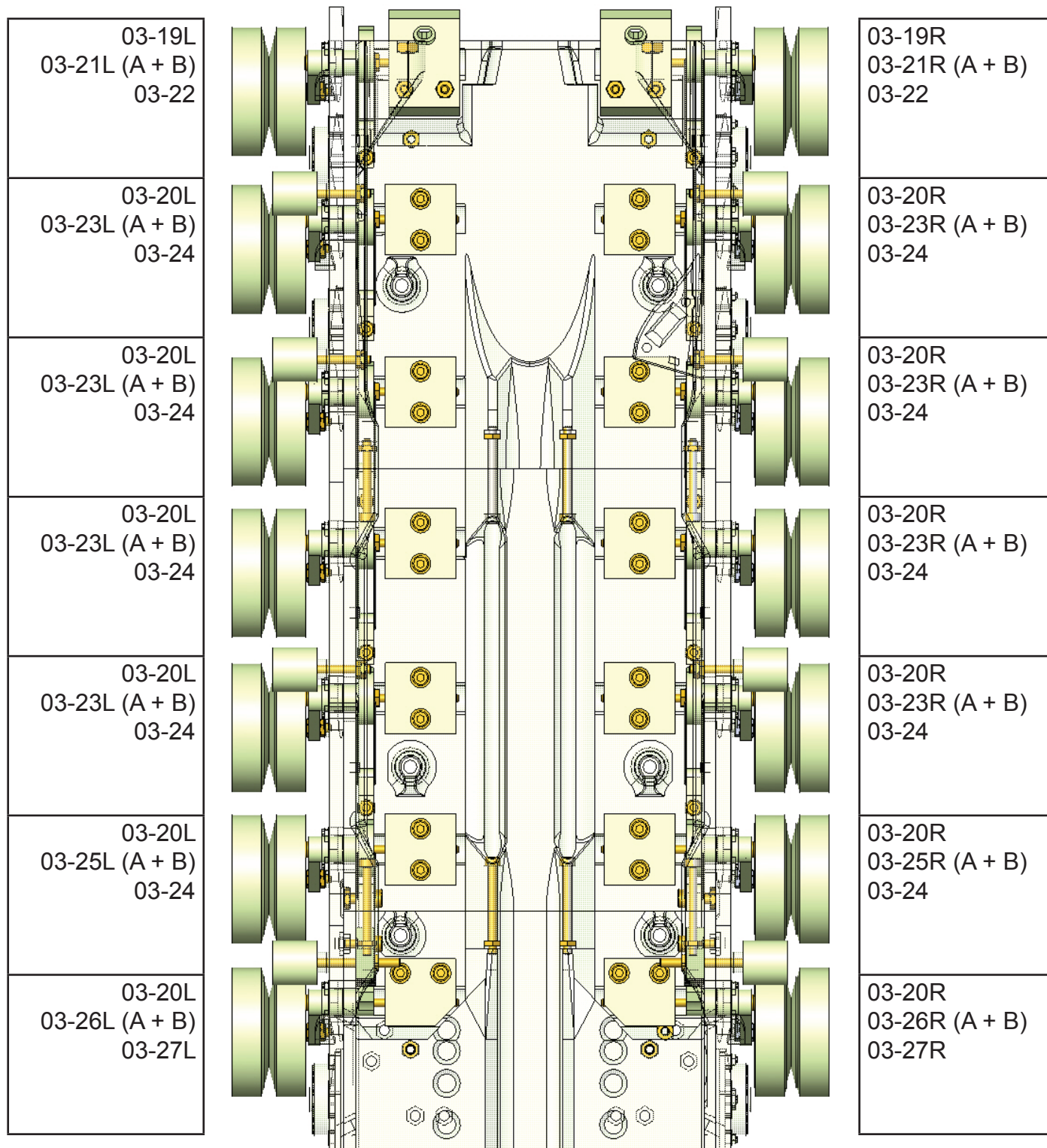
14x



The last ones to be glued are 03-16B and 03-17B.
 .Make sure the wheel rotates properly.

Assembly 03 (lower hull)

suspension - type 1

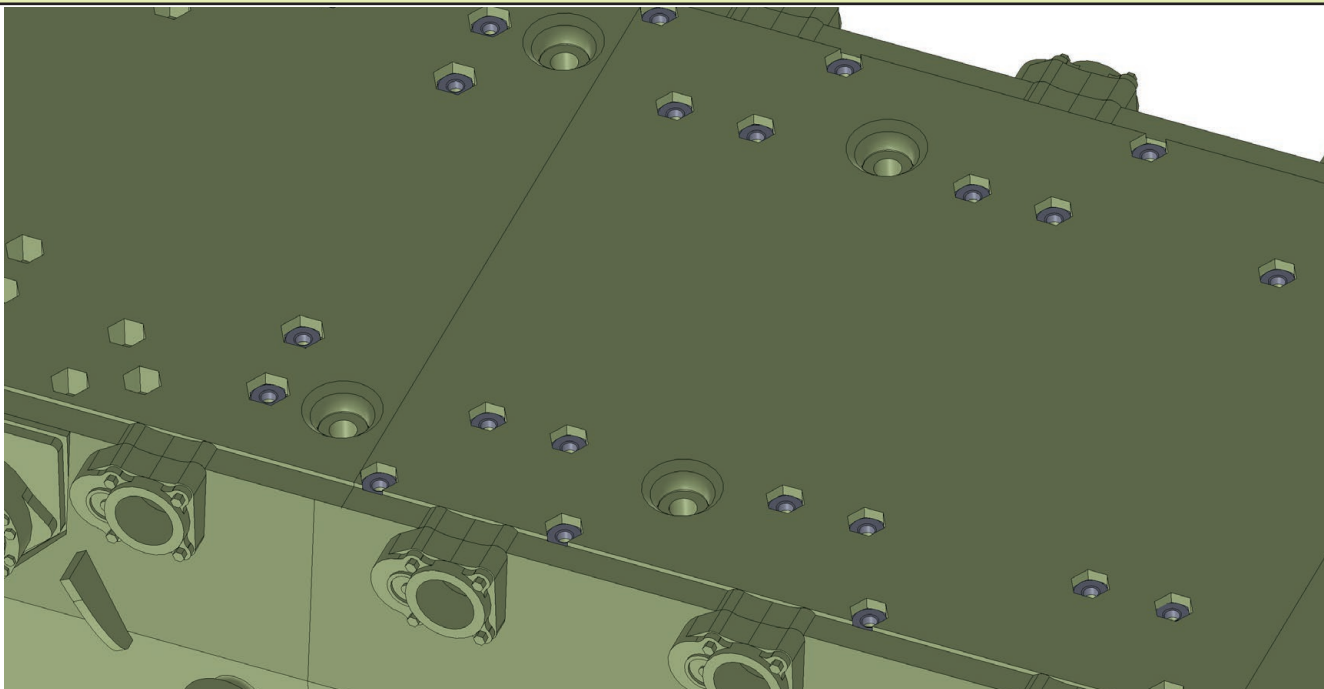


This section of the manual will guide you through the installation of the wheels and suspension. This section is dedicated to installing the first version of the suspension, based on rubber bands. To install the second version (nylon), see the next section.

A view of the overall layout. Please check the diagram carefully.

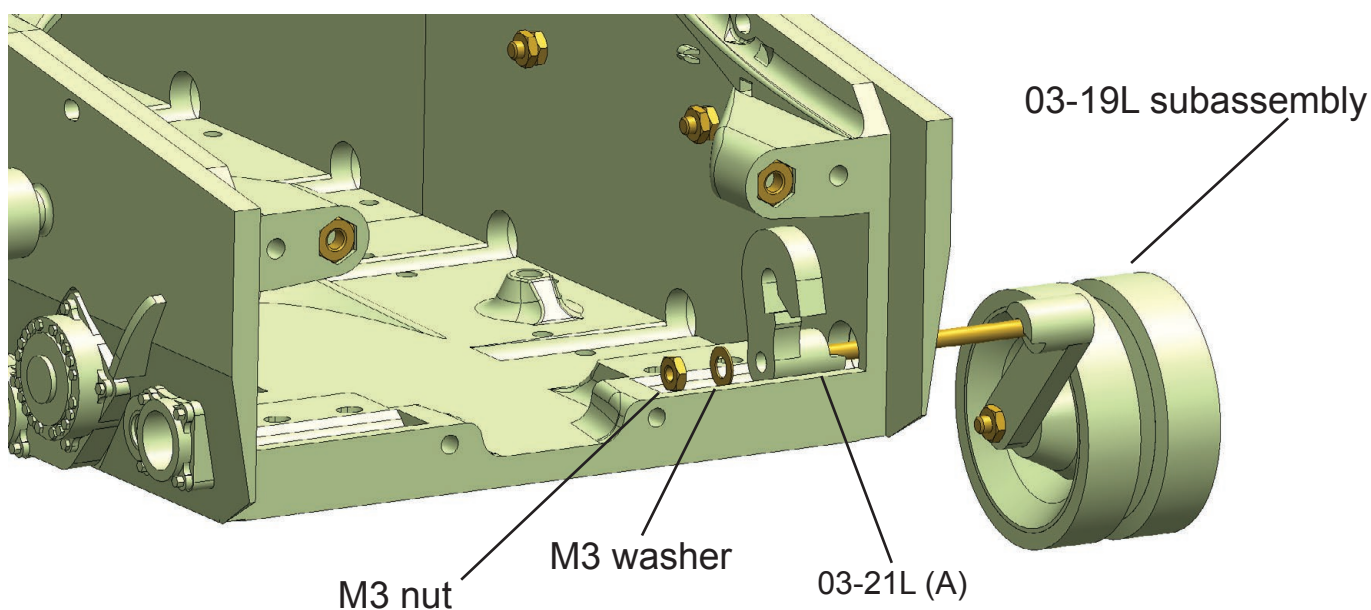
Assembly 03 (lower hull)

step 16



Fit M3 nuts to all the holes where the running wheels will be installed.

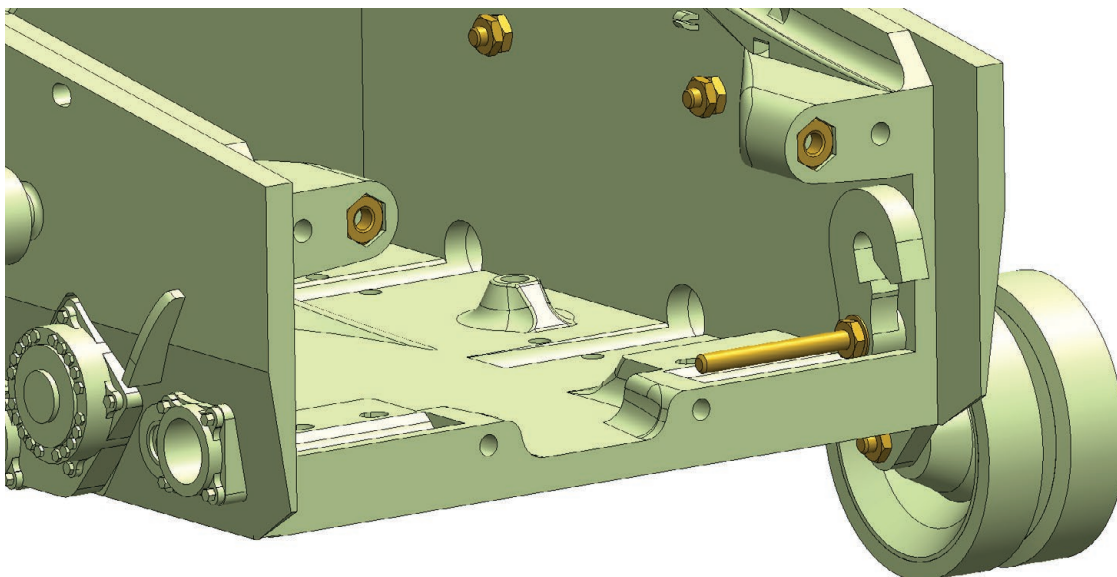
step 17



Insert the first road wheel from the front. Use the wheel with the 03-19L part (the other 6 wheels on the left side will contain part 03-20L). Connect the 03-21L (A) part and the road wheel assembly. Secure tightly with a M3 nut. Use a washer.

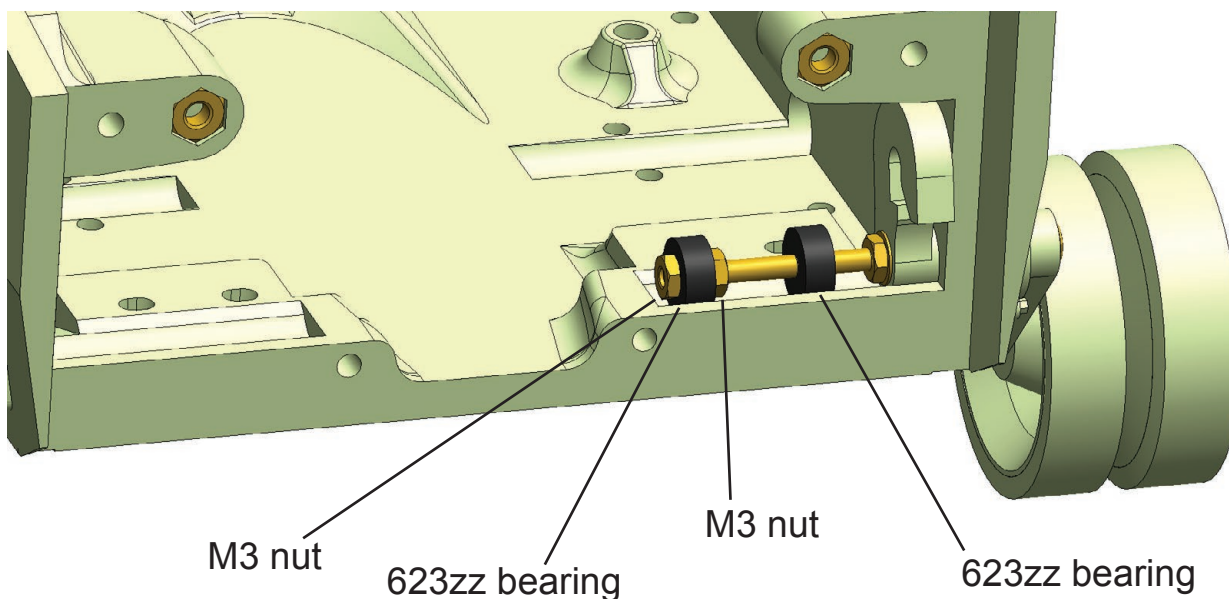
Assembly 03 (lower hull)

step 17 detail



Approximate distance between the 03-19L assembly and the hull.
Ensure that the wheels are a uniform distance from the hull.
Parts 03-19L and 03-21L (A) should not touch the hull.

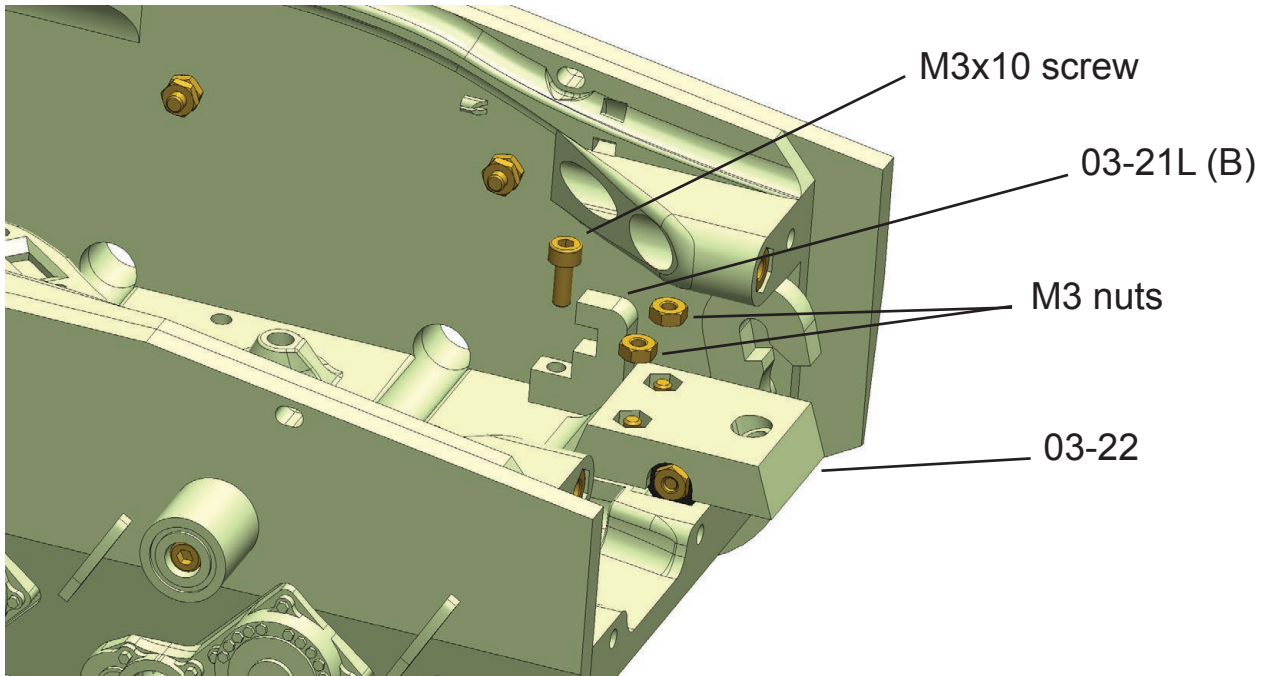
step 18



Add one 623zz loose bearing and
fix one 623zz bearing with two nuts at the end of the 50mm screw.
Secure the nuts against falling out. You can use a drop of superglue.

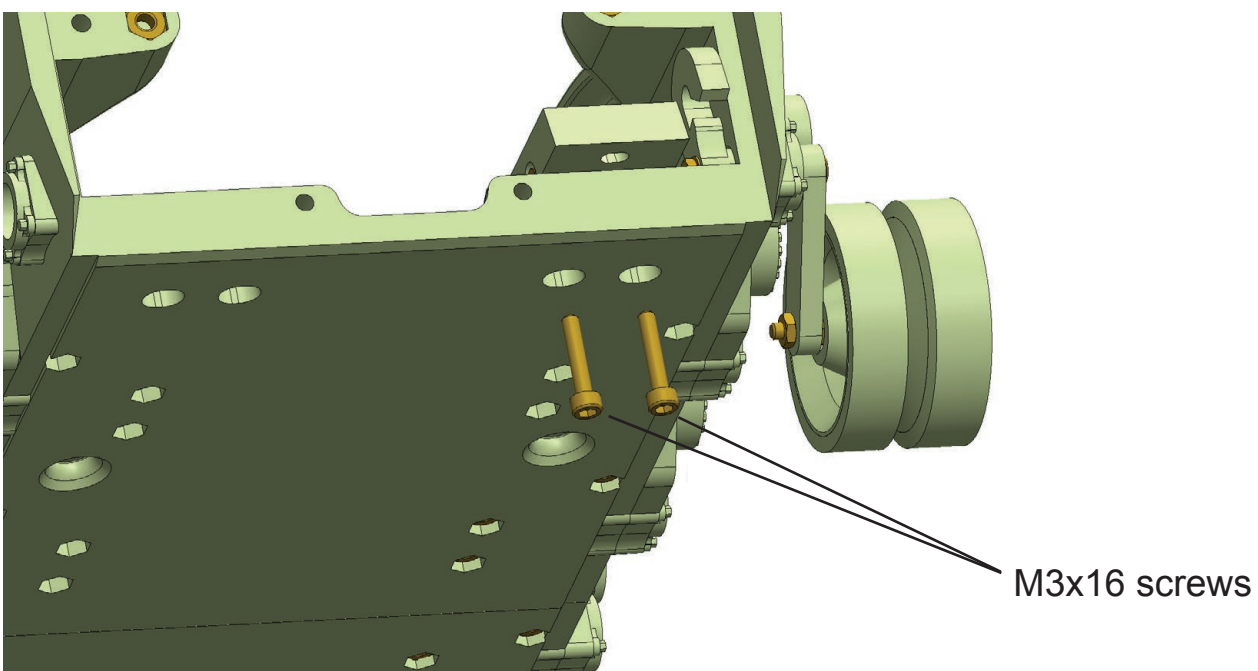
Assembly 03 (lower hull)

step 19



Fix the wheel with the 03-22 part fitted with two M3 nuts.
Add part 03-21L (B), secure part with M3x10mm screw.

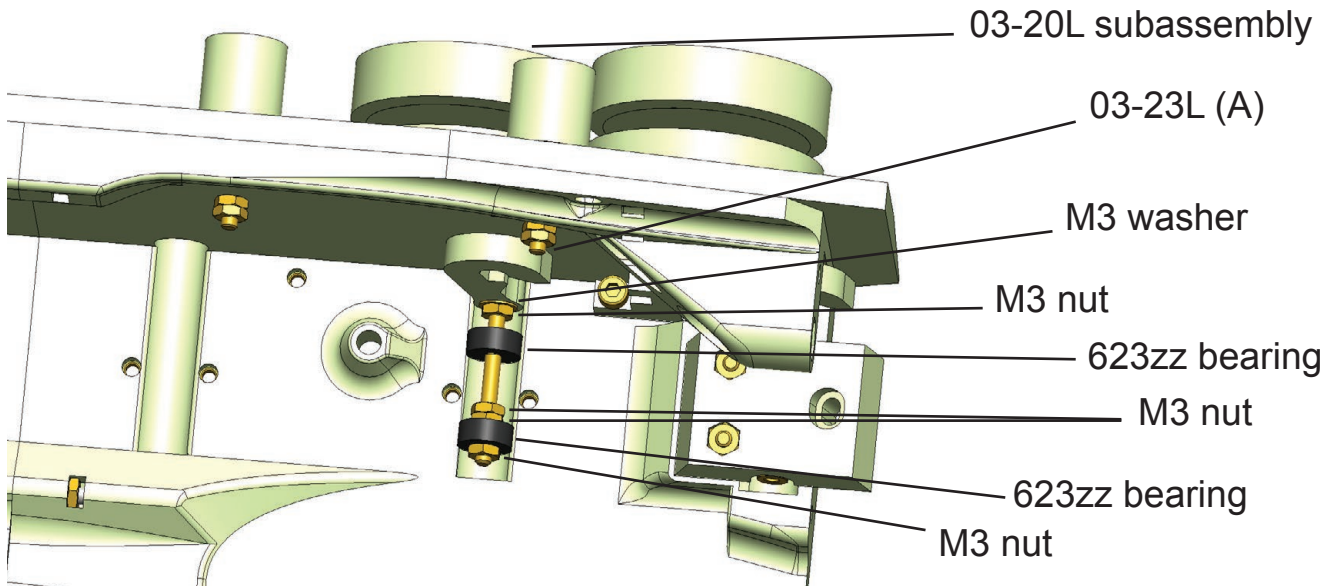
step 20



Fix the 03-22 part from the bottom with two M3x16mm screws.

Assembly 03 (lower hull)

step 21



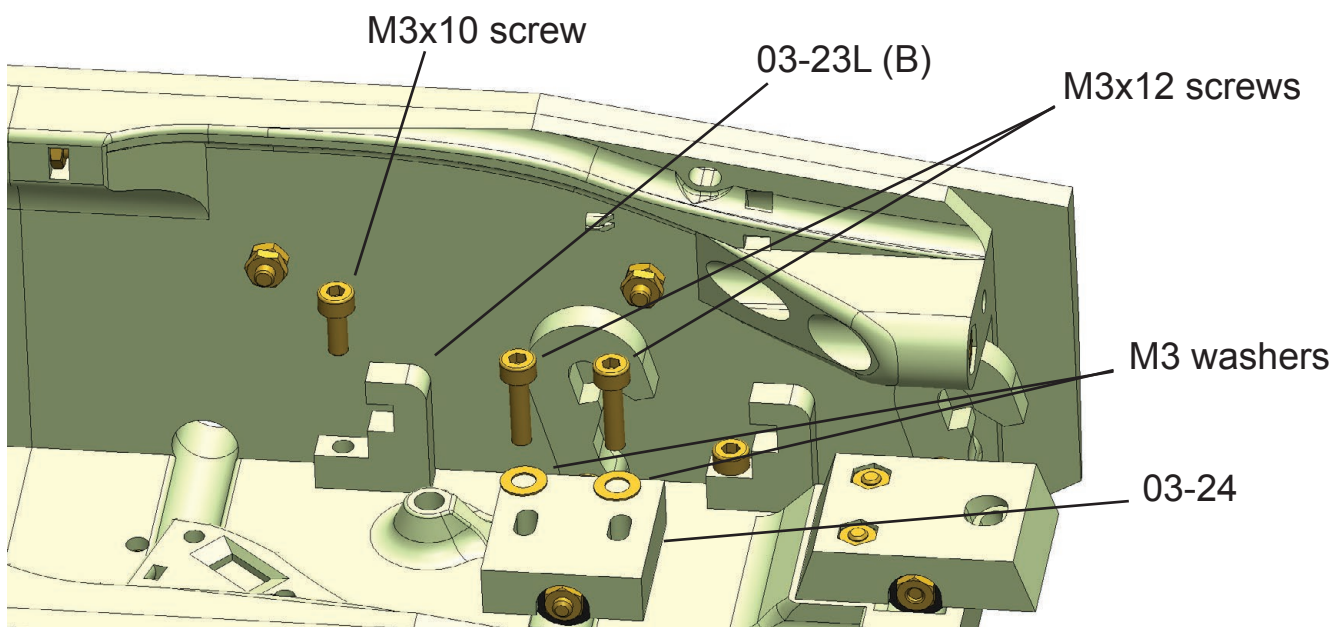
Insert the second road wheel from the front. Use the wheel with the 03-20L part.

Connect the 03-23L (A) part and the road wheel assembly.

Secure tightly with a M3 nut. Use a washer.

Use one loose 623zz bearing and one bearing tightly secured at the end of the screw with M3 nuts.

step 22

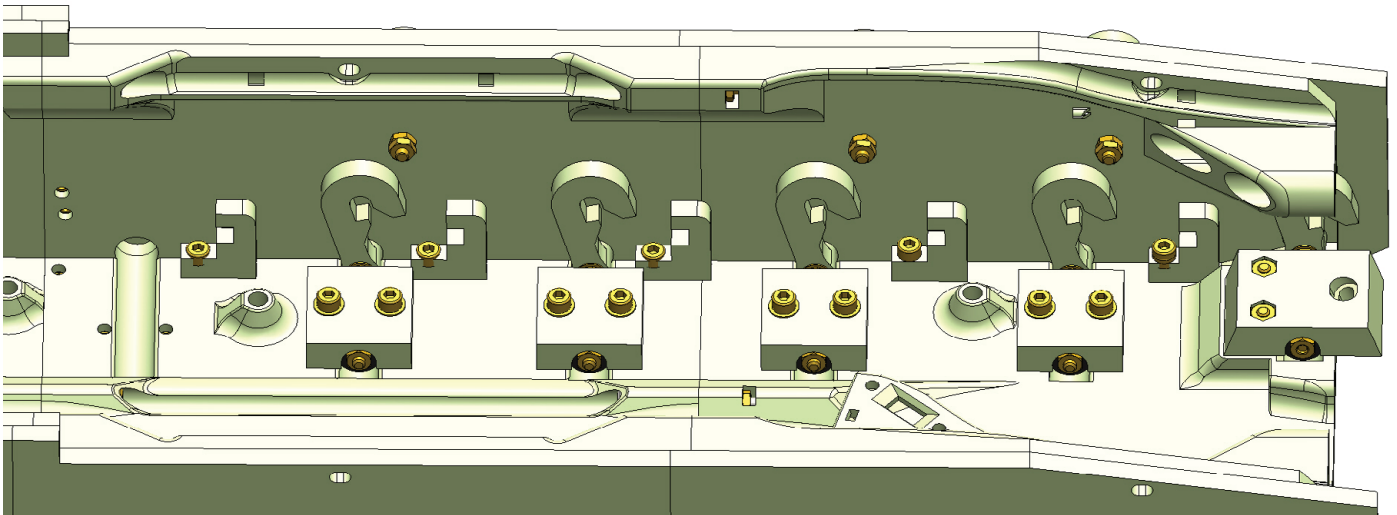


Add part 03-23L (B), secure with the M3x10 screw.

Add part 03-24, secure part with two M3x12mm (or M3x14mm) screws from the top.

Assembly 03 (lower hull)

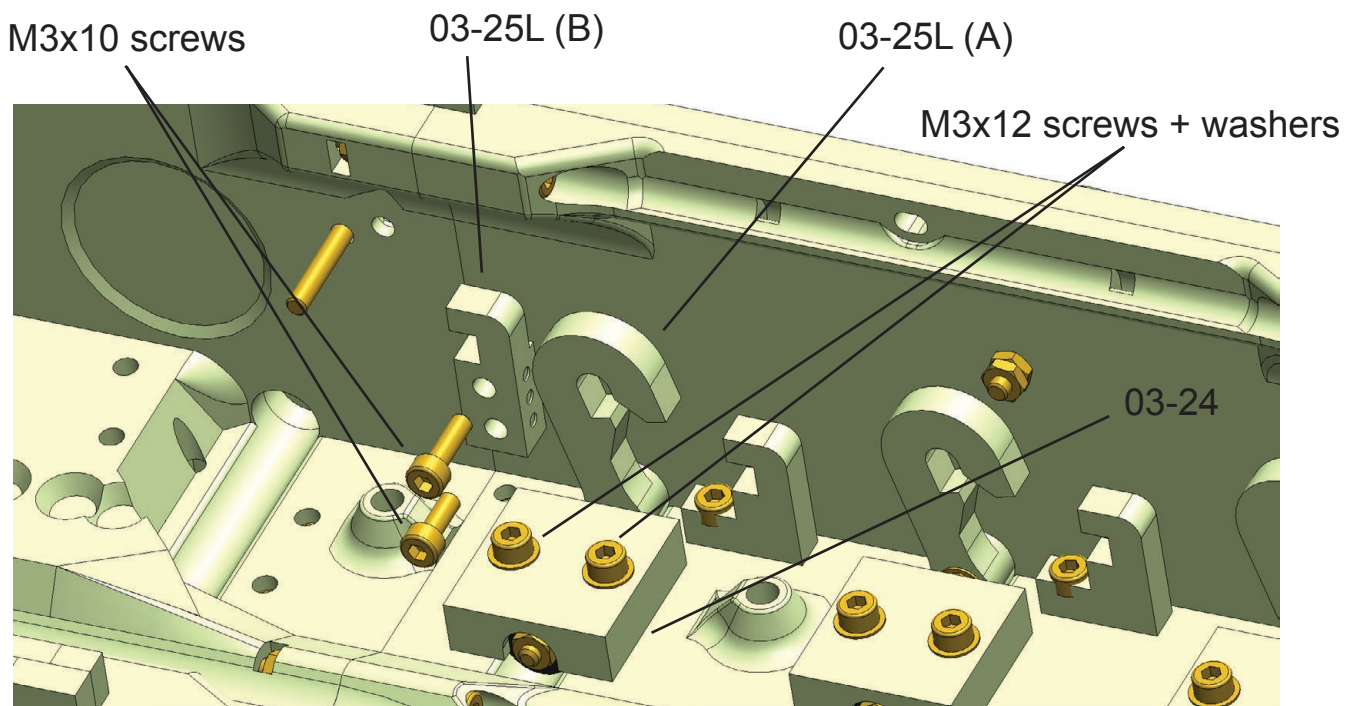
step 23



Repeat 3 more times with the same parts. Now installed wheels will be:

- one wheel with part 03-19L and parts 03-21L (A+B) and 03-22.
- 4 wheels with part 03-20L and parts 03-23L (A+B) and 03-24.

step 24



Install another wheel. The installation procedure for the wheel itself is the same as for all wheels.

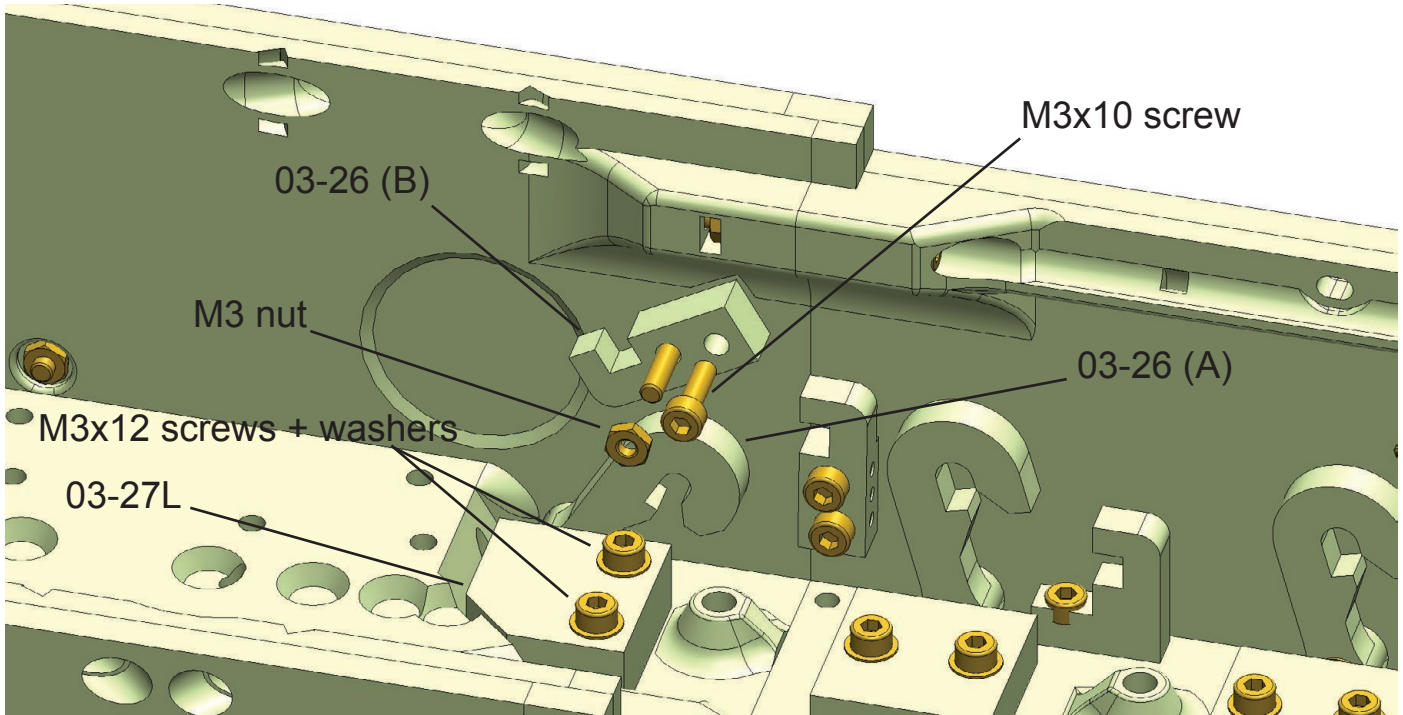
Use 1x M3 washer, 2x 623zz bearings and M3 nuts.

Use roadwheel with part 03-20L and parts 03-25L (A), 03-25L (B) and 03-24.

Secure 03-25L (B) with two M3x10mm screws. Secure 03-24 with two M3x12 screws and washers.

Assembly 03 (lower hull)

step 25



Add the last roadwheel in the row as the next step.

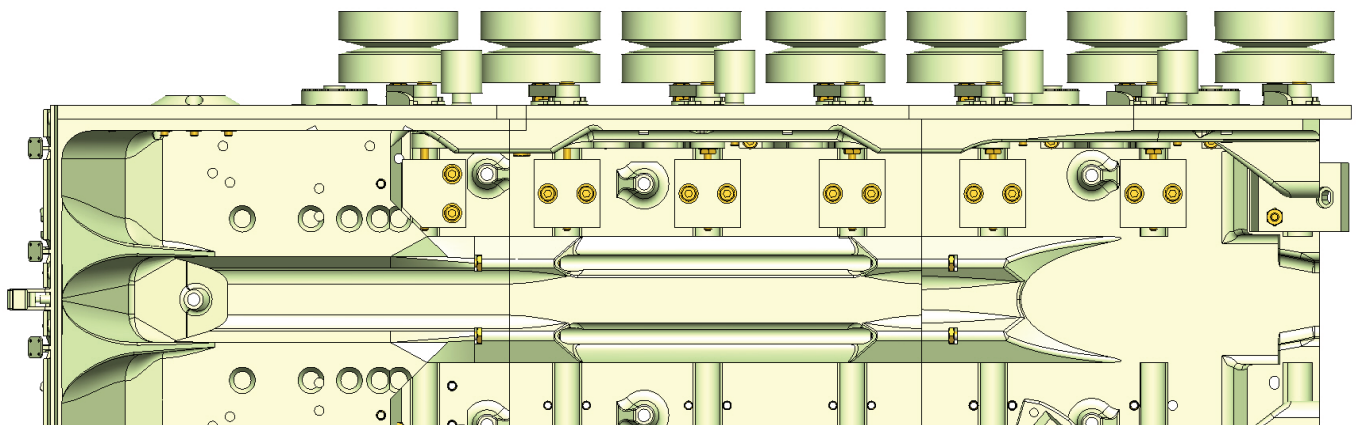
The installation procedure for the wheel itself is the same as for all wheels.

Use 1x M3 washer, 2x 623zz bearings and M3 nuts. Use the roadwheel with the 03-20L part and the 03-26L (A+B) and 03-27L parts.

Secure 03-26L (B) with one M3x10mm screw and one M3 nut.

Secure 03-27L with two M3x12 screws and washers.

step 26

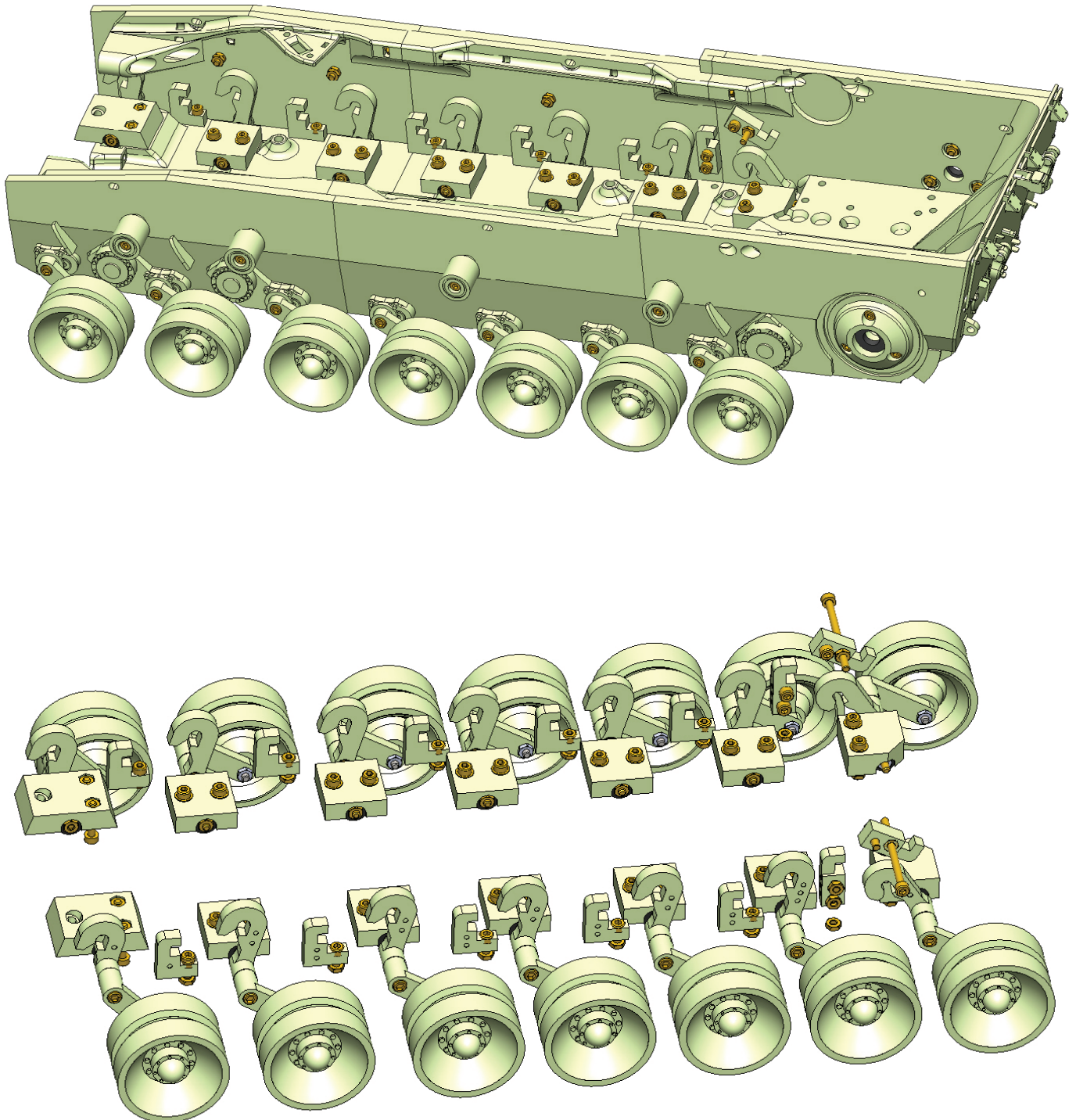


Align all wheels.

Parts 03-22, 03-24 and 03-27L have sufficient range to align all travelling wheels. Check that parts 03-19L and 03-20L are not in contact with the hull and rotate freely.

Assembly 03 (lower hull)

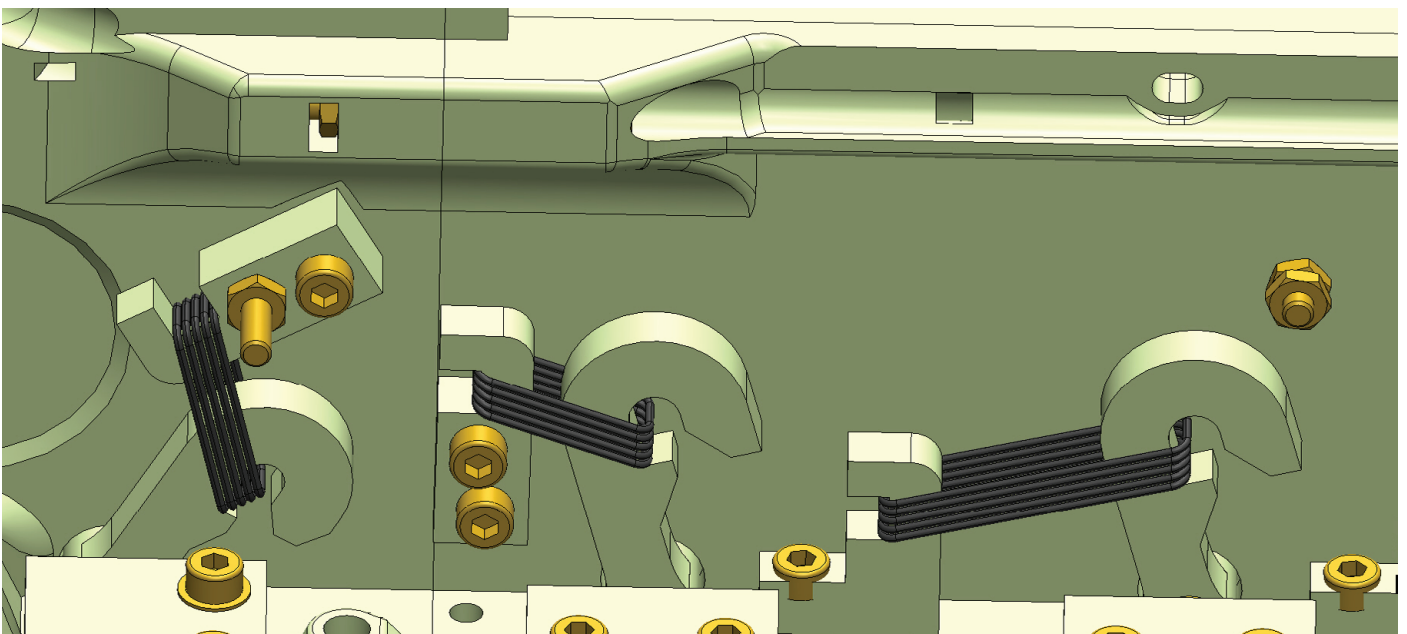
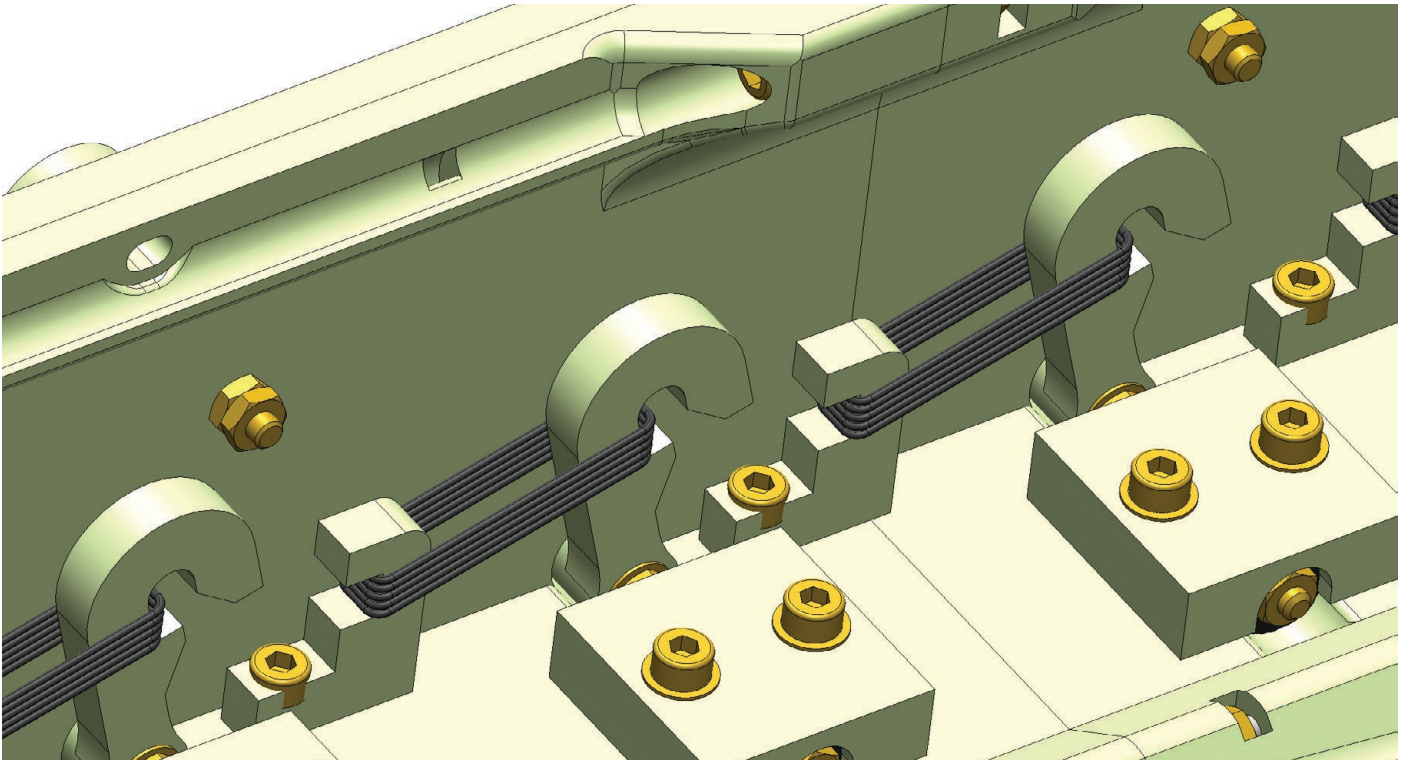
step 27



Use the same procedure on the right side with the mirrored parts marked with (R).
The picture shows the overall suspension arrangement.
We recommend that you look again at page 33.

Assembly 03 (lower hull)

step 28

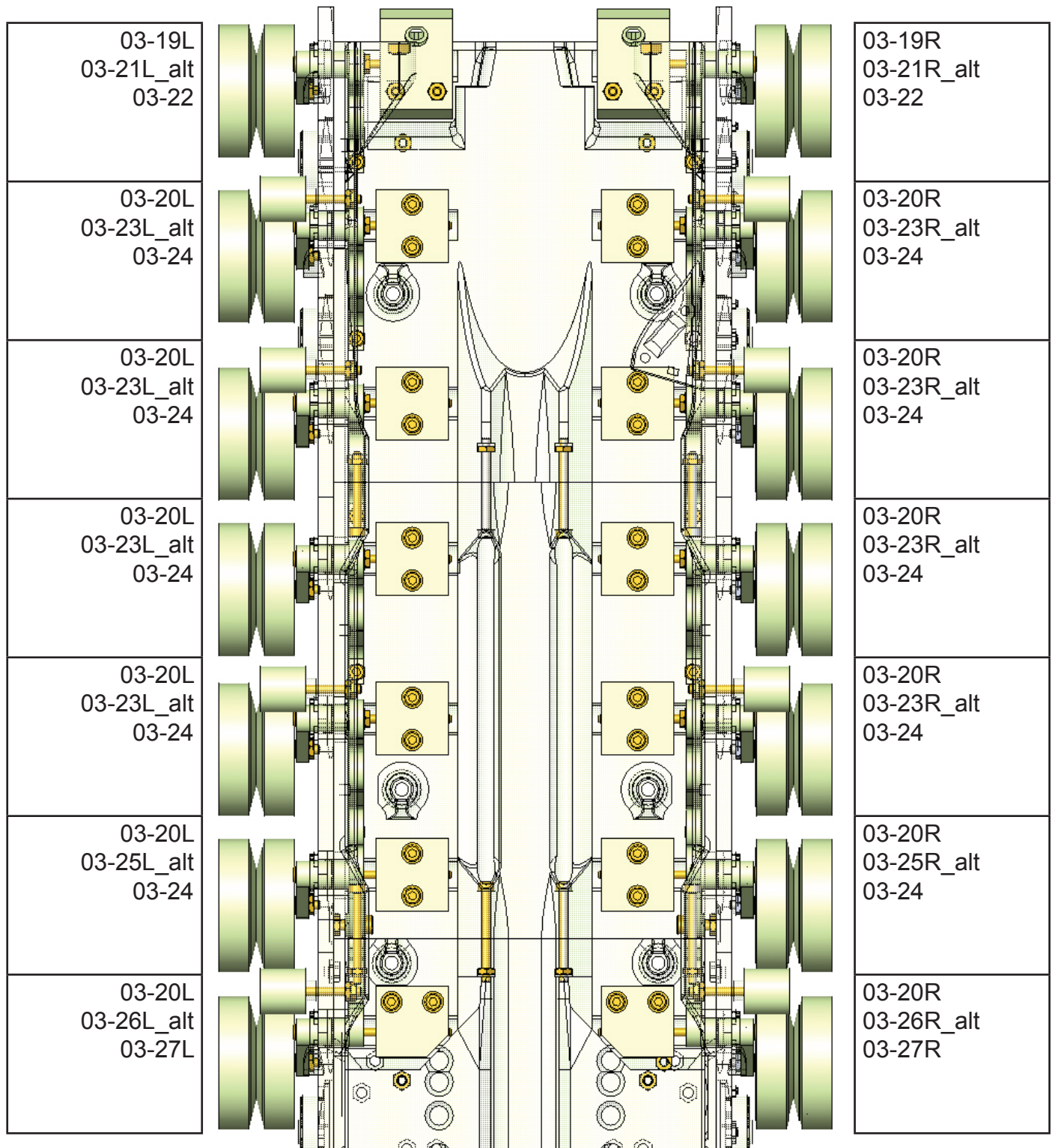


Add rubber bands between the parts as shown.

We cannot give you an exact recommendation for the number and size (thickness) of rubber bands. Rubber bands of the same diameter from different manufacturers may have completely different properties.

Assembly 03 (lower hull)

suspension - type 2

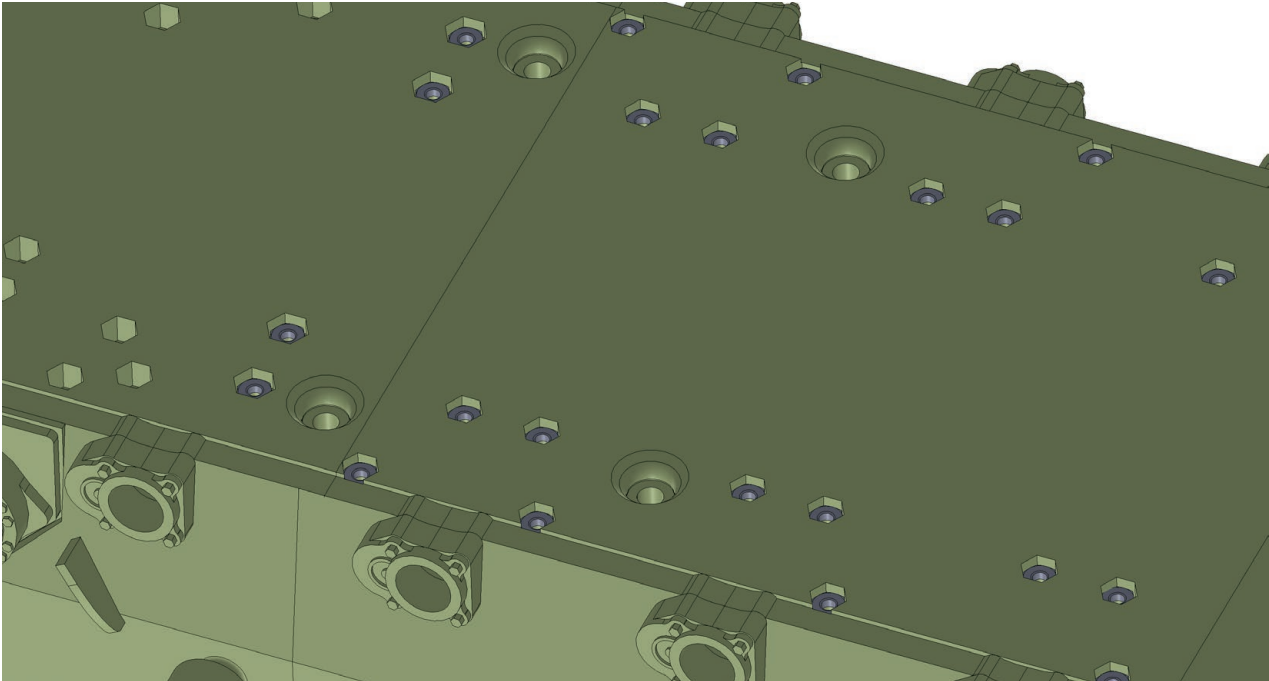


This section of the manual will guide you through the installation of the wheels and suspension. This section is dedicated to installing the second version of the suspension, based on 3D printed nylon parts.

A view of the overall layout. Please check the diagram carefully.

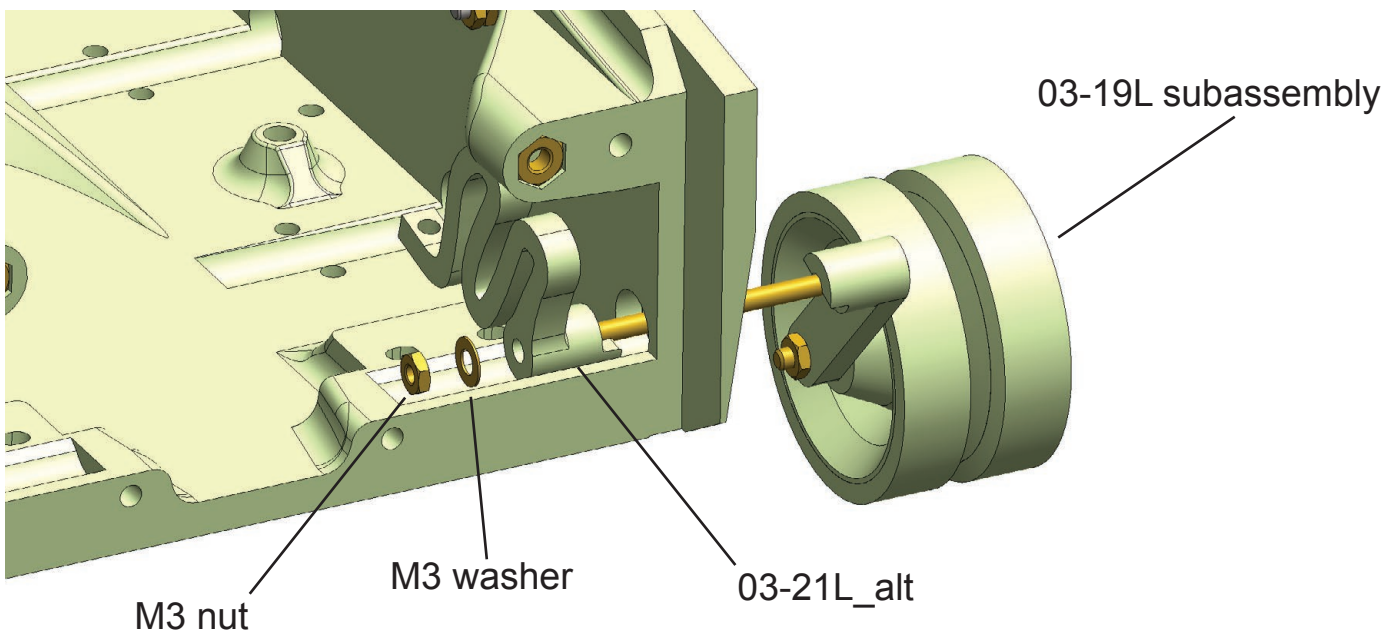
Assembly 03 (lower hull)

step 16 (alternative)



Fit M3 nuts to all the holes where the running wheels will be installed.

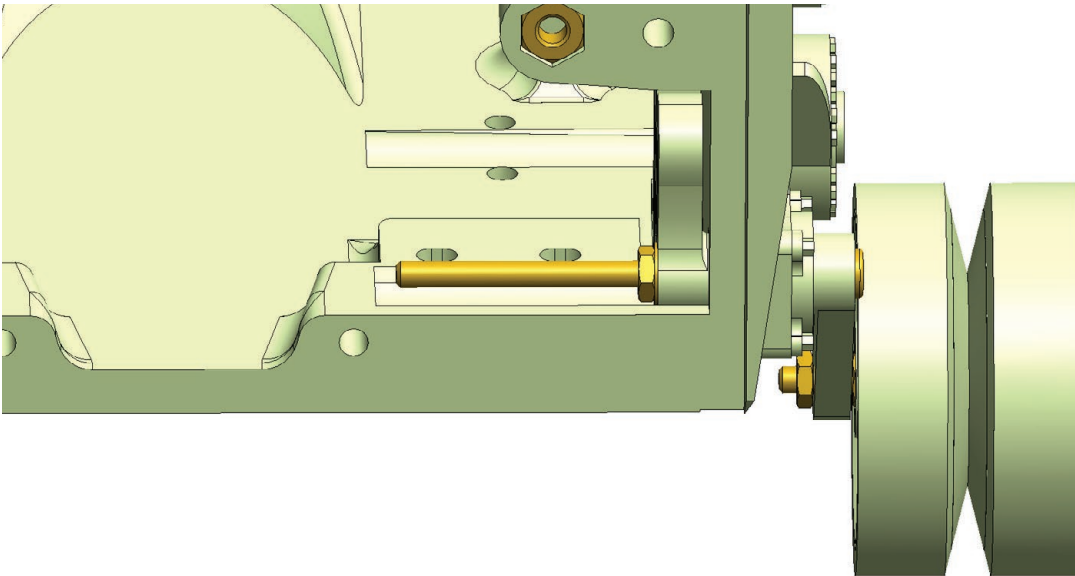
step 17 (alternative)



Insert the first road wheel from the front. Use the wheel with the 03-19L part (the other 6 wheels on the left side will contain part 03-20L). Connect the 03-21L_alt part and the road wheel assembly. Secure tightly with a M3 nut. Use a washer.

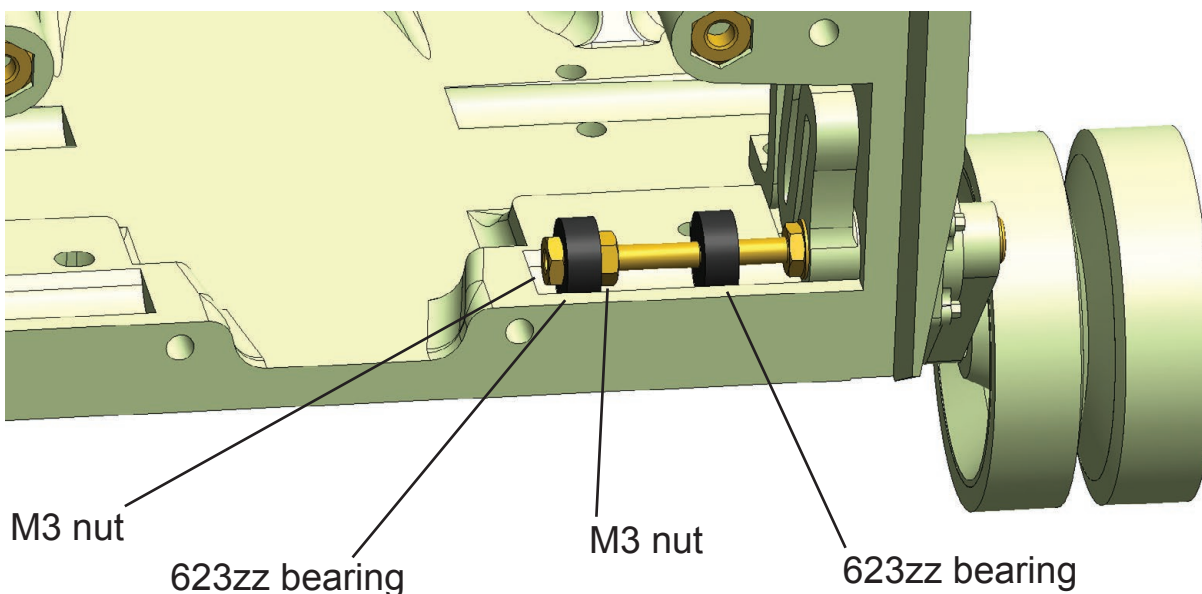
Assembly 03 (lower hull)

step 17 detail (alternative)



Approximate distance between the 03-19L assembly and the hull.
Ensure that the wheels are a uniform distance from the hull.
Parts 03-19L and 03-21L_alt should not touch the hull.

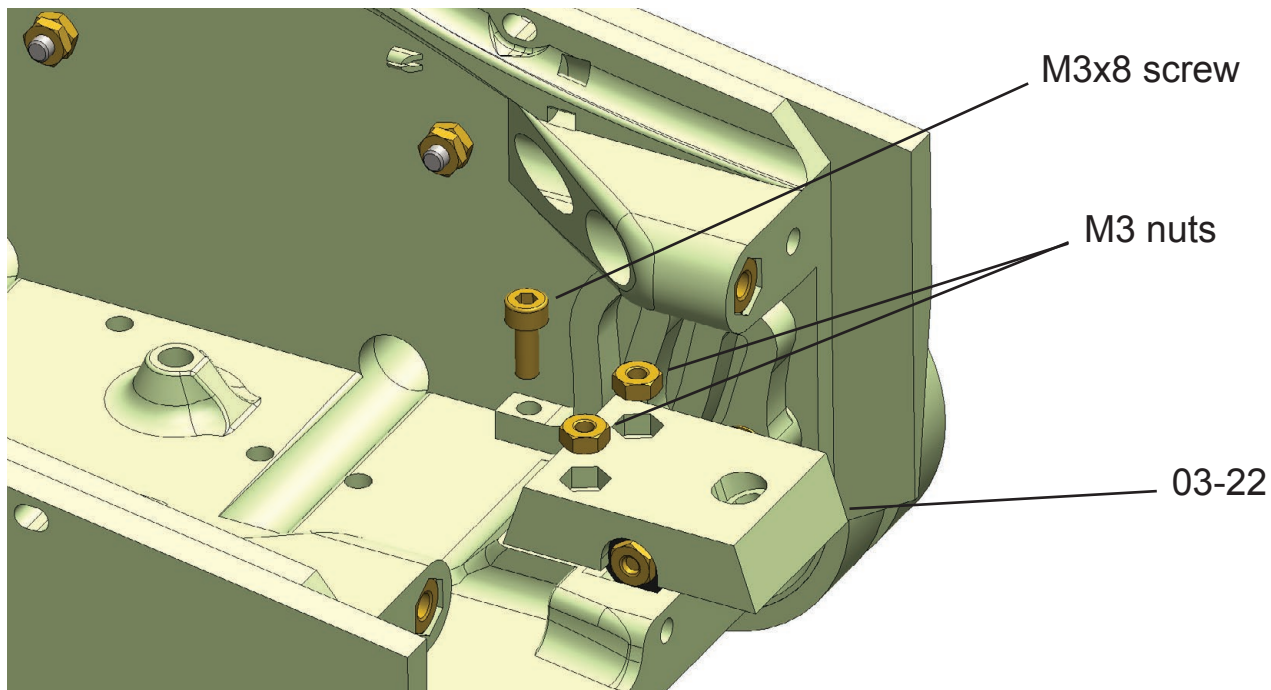
step 18 (alternative)



Add one 623zz loose bearing and
fix one 623zz bearing with two nuts at the end of the 50mm screw.
Secure the nuts against falling out. You can use a drop of superglue.

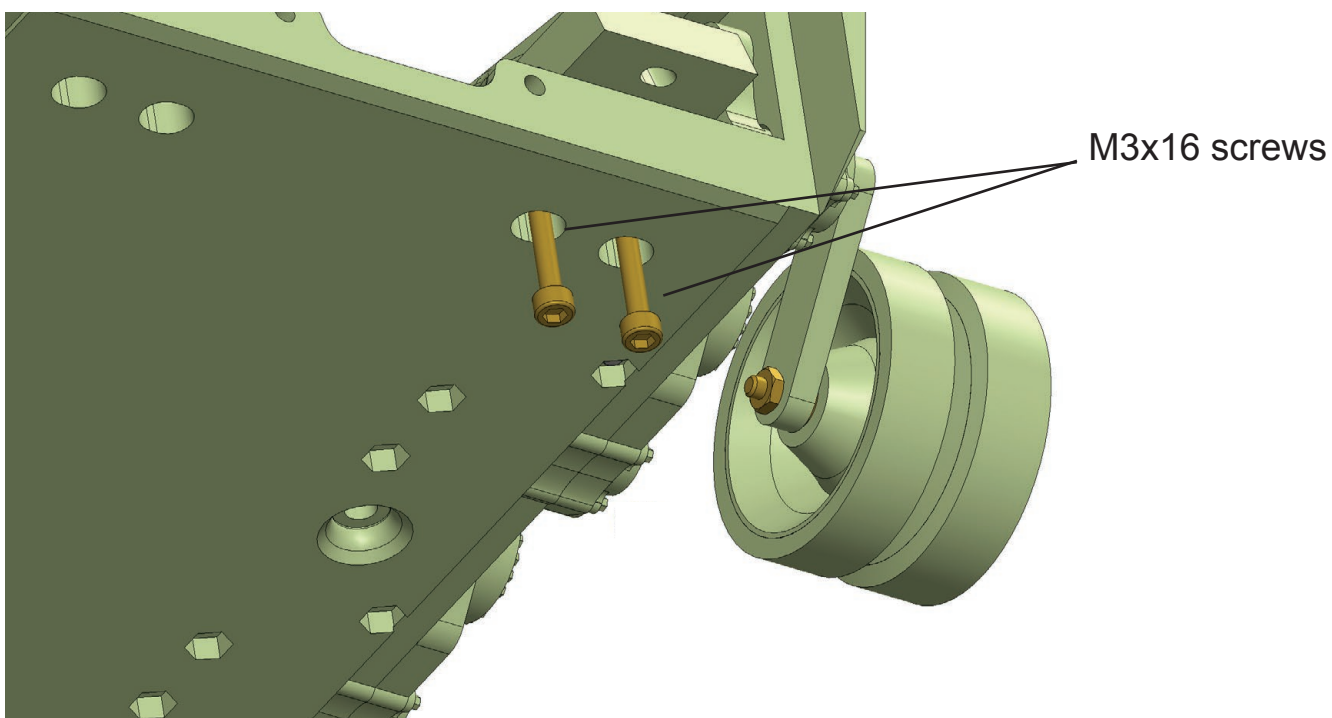
Assembly 03 (lower hull)

step 19 (alternative)



Fix the wheel with the 03-22 part fitted with two M3 nuts.
Secure part 03-21L_alt with M3x8mm screw.

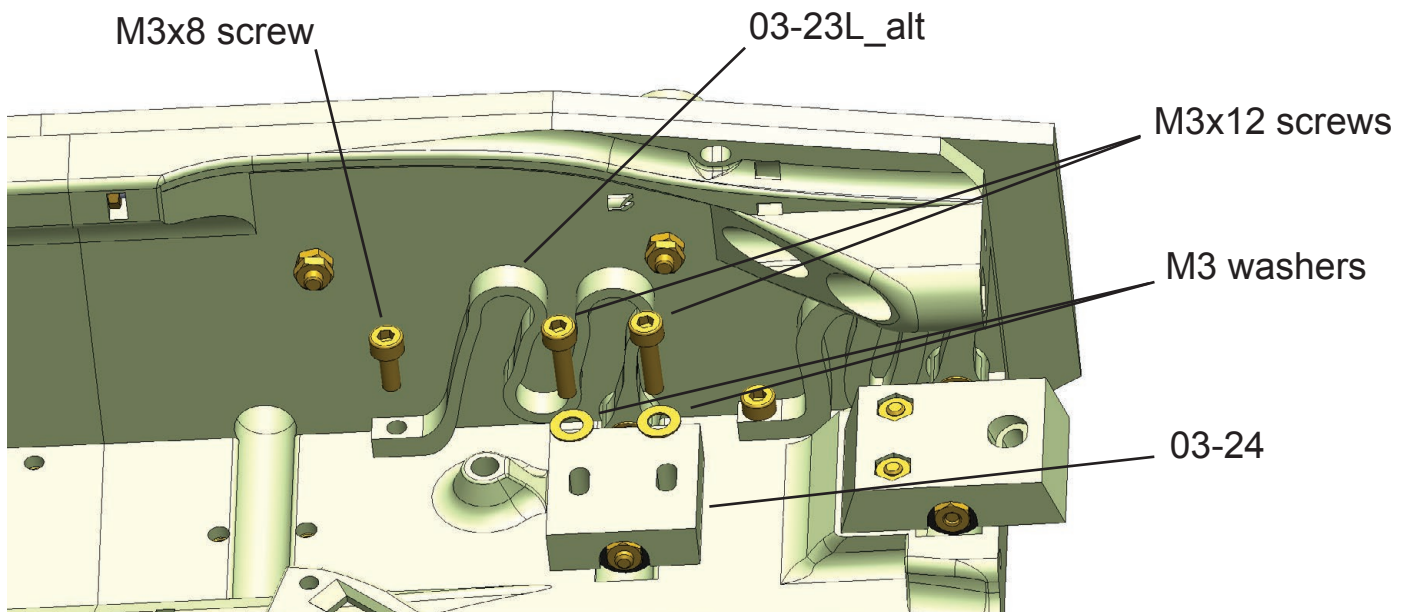
step 20 (alternative)



Fix the 03-22 part from the bottom with two M3x16mm screws.

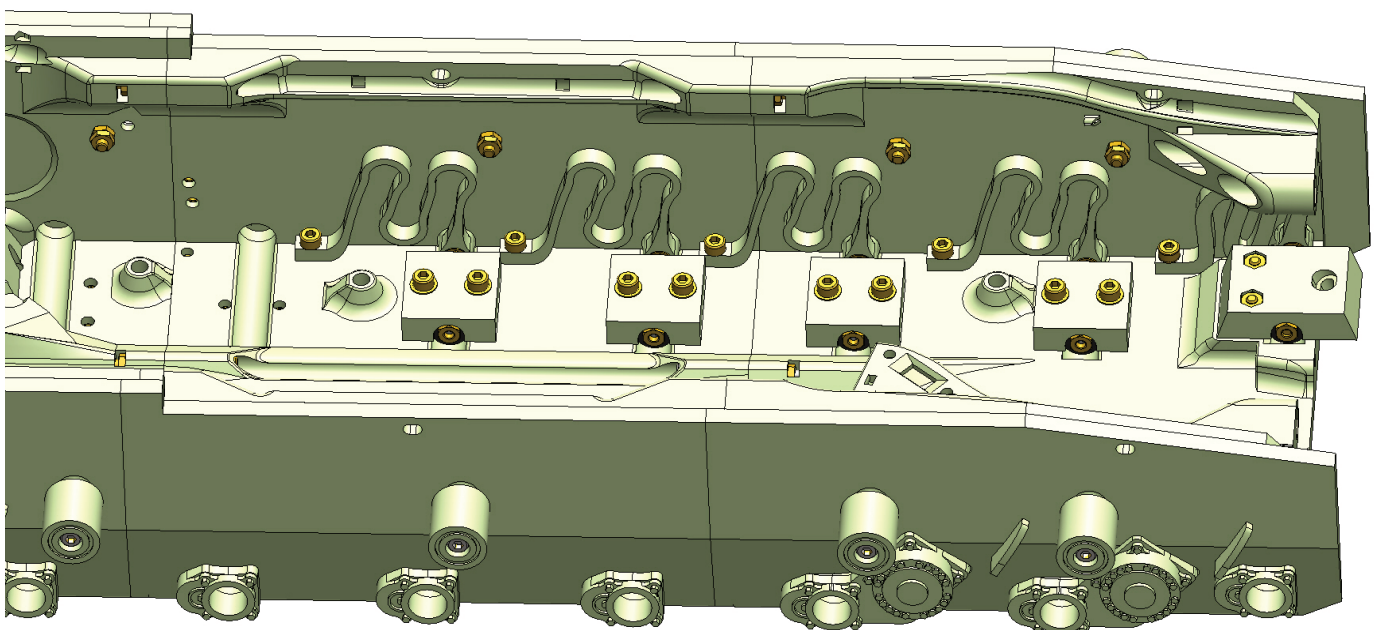
Assembly 03 (lower hull)

step 22 (alternative)



Fit the other wheels. Use only the wheels with part 02-20L. The procedure will be the same as for the first wheel. Use one loose bearing and one tightly secured at the end of the screw, this time you will use parts 02-23L_alt and 03-24, which is secured with two M3x12mm (or M3x14mm) screws from the top.

step 23 (alternative)

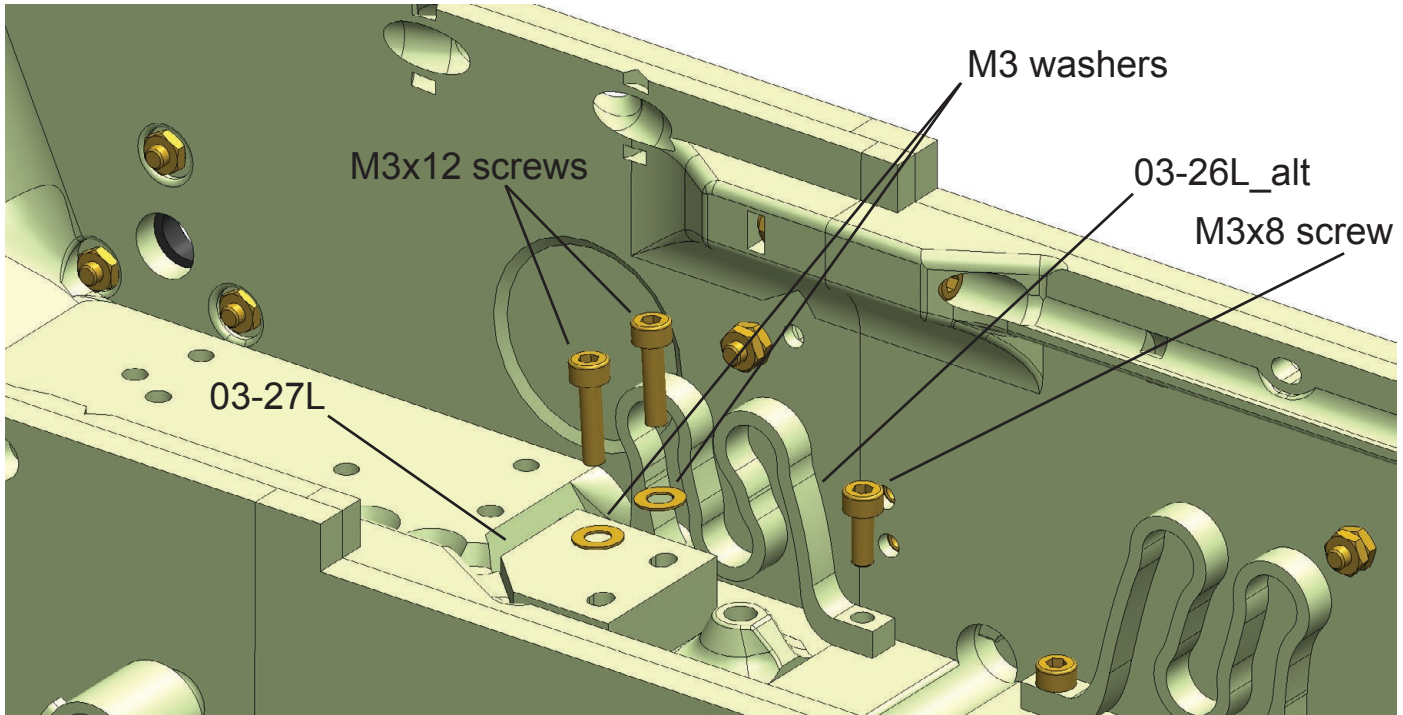


Repeat 3 more times with the same parts. Now installed wheels will be:

- one wheel with part 03-19L and parts 03-21L_alt and 03-22.
- 4 wheels with part 03-20L and parts 03-23L_alt and 03-24.

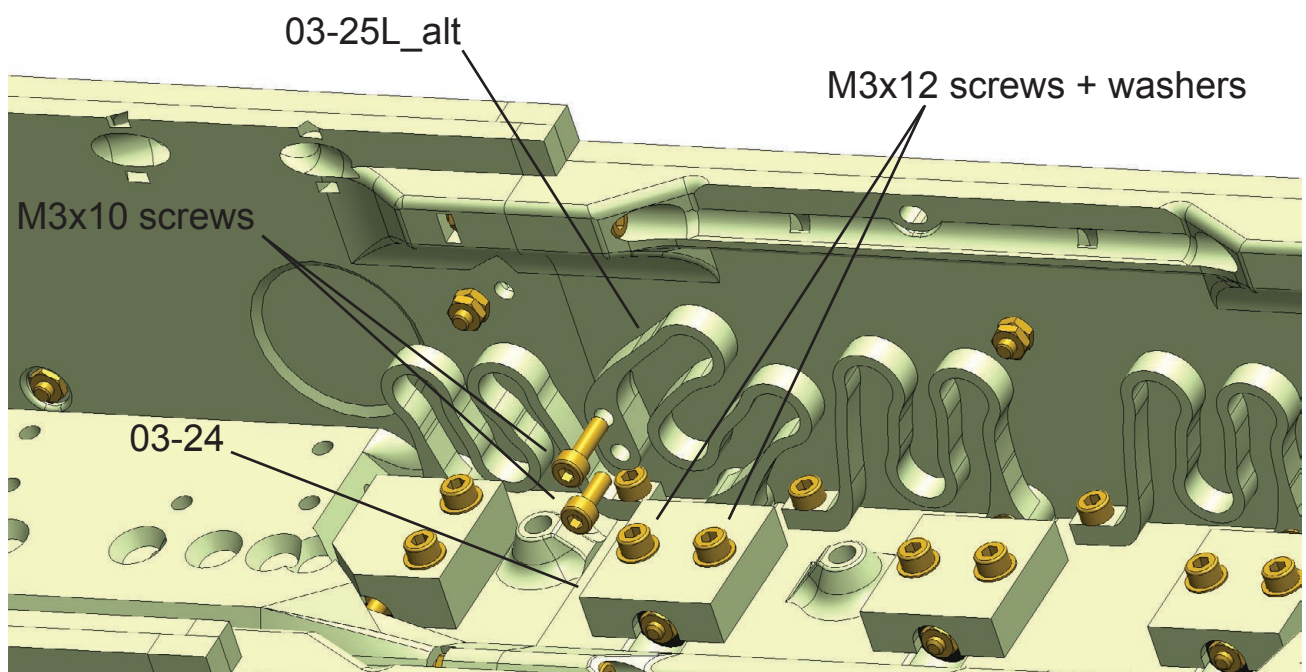
Assembly 03 (lower hull)

step 24 (alternative)



Add the last wheel in the row as the next step. It will contain the wheel with the 03-20L part and the 03-26L_alt and 03-27L parts. Secure 03-27L with two M3x12 screws and washers.

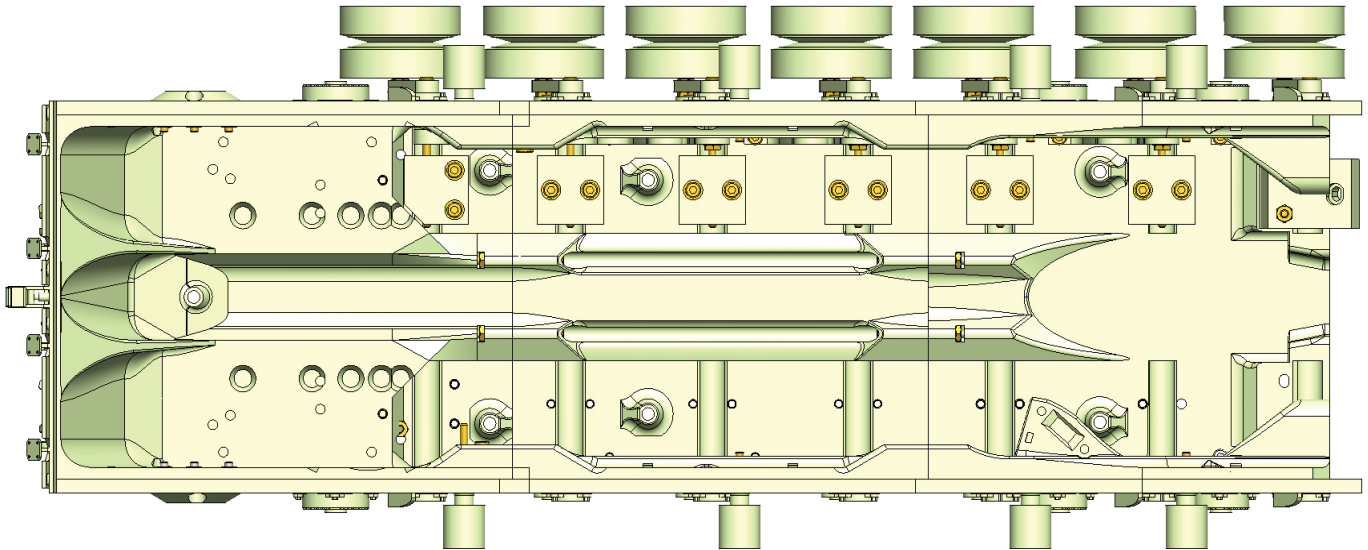
step 25 (alternative)



Install the 2nd to last wheel in the row with part 03-20L and parts 03-25L_alt and 03-24. Secure 03-25L_alt with two M3x10mm screws. Secure 03-24 with two M3x12 screws and washers.

Assembly 03 (lower hull)

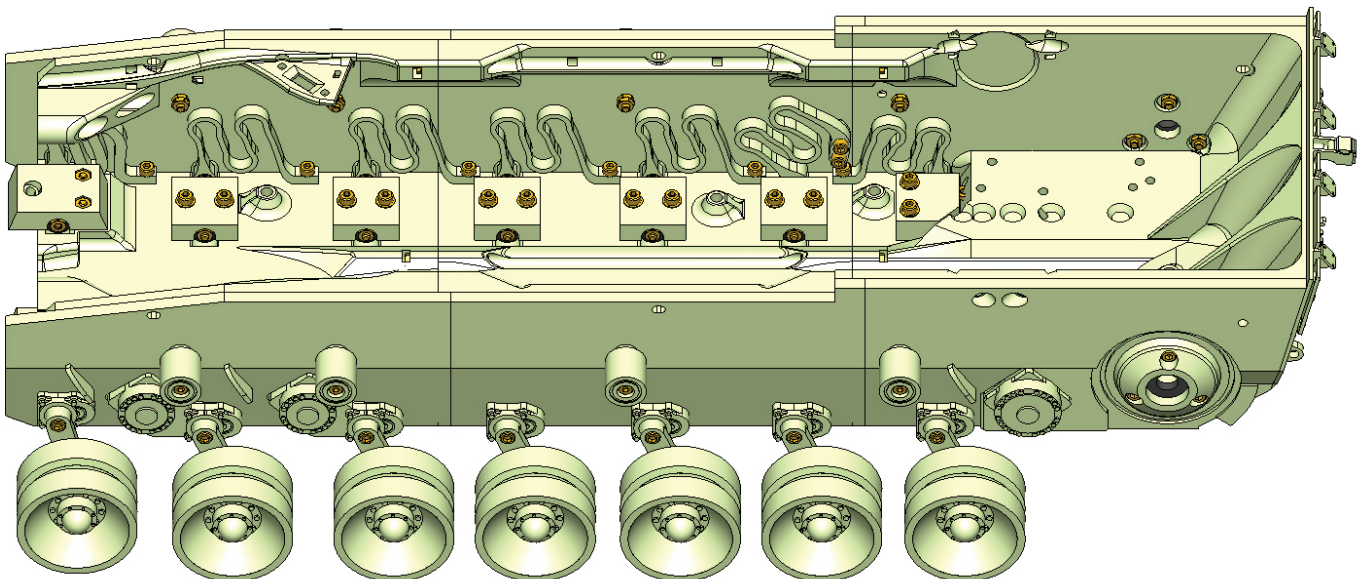
step 26 (alternative)



Align all wheels.

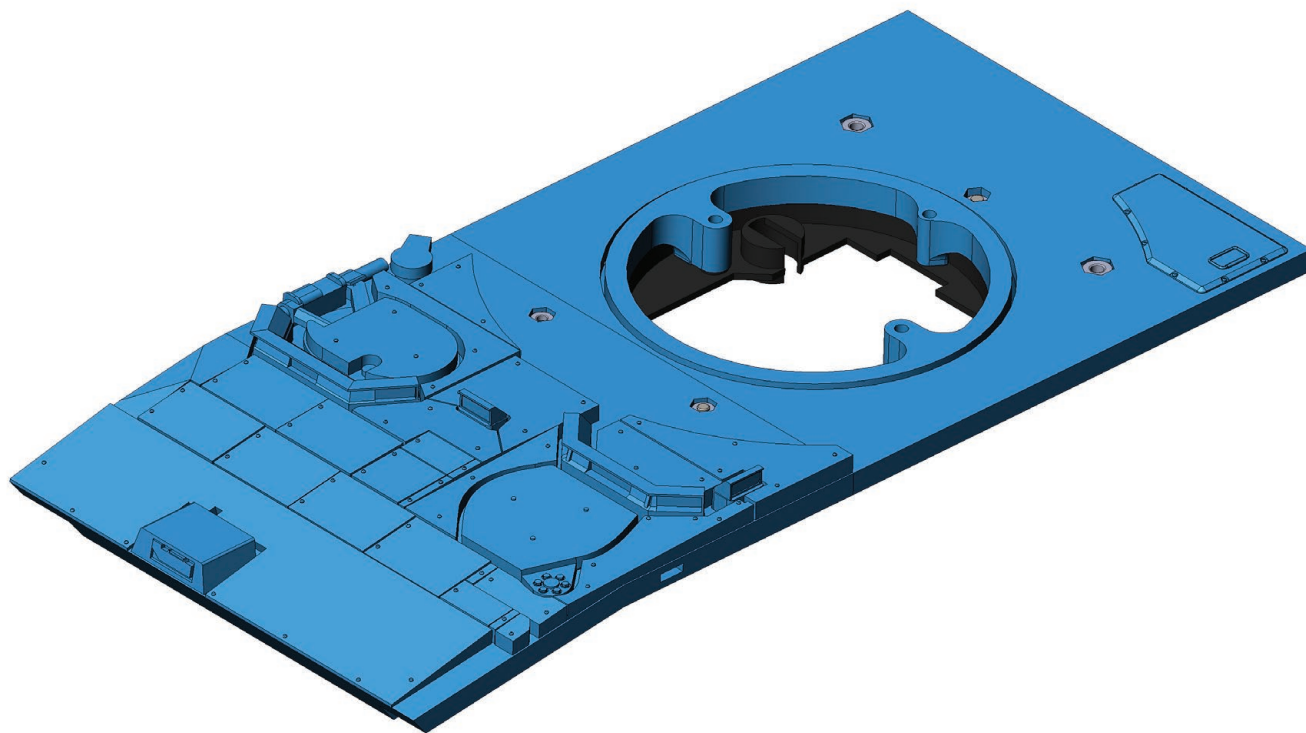
Parts 03-22, 03-24 and 03-27L have sufficient range to align all travelling wheels. Check that parts 03-19L and 03-20L are not in contact with the hull and rotate freely.

step 27 (alternative)



Use the same procedure on the mirrored right side with the parts marked with (R).
The picture shows the overall suspension arrangement.

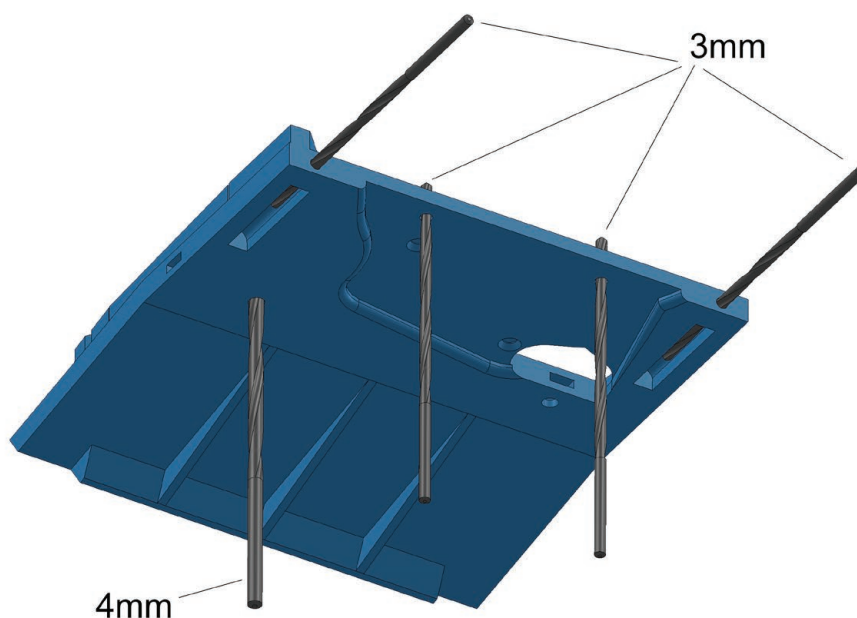
Assembly 04 (front cover)



AMOUNT:	1
PRINTED PARTS:	04-01 (1x), 04-02 (1x), 04-03 (1x), 04-04 (1x), 04-05 (1x), 04-06 (1x), 04-07 (1x), 04-08 (1x), 04-09 (1x), 04-10(1x), 04-11 (1x), 04-12 (1x), 04-13A (1x), 04-14 (1x), 04-15(2x).
OPTIONAL PRINTED PARTS:	04-16_S (1x), 04-17_S (1x), 04-16_JGY (1x), 04-17_JGY (1x), 04-16_N20 (1x), 04-17_N20 (1x).
NON-PRINTED PARTS:	M3x10 screw (1x) , M3x12 screw (1x), M3x16 screw (5x), M3x25 screw (2x), M3 NUTS (10x), M4 NUTS (4x), 2mm pin - 25-30mm lenght, 633zz bearing (3x), standard RC tank 360° turret ring (small), standard RC tank turret rotation motor
OPTIONAL NON-PRINTED PARTS:	M2x4 screw (2x), M2x8 screw (2x), M2x16 screw (2x), M3X6 GRUB screw (1x), M3x10 screw (1x), M3x25 screw (2x), M3x20 screw (2x), M2 NUT (2x), M3 NUT (1x), M3 WASHER (2x), FS90R SERVO (1x), JGY-N20 MOTOR (1x), N20 MOTOR (1x).

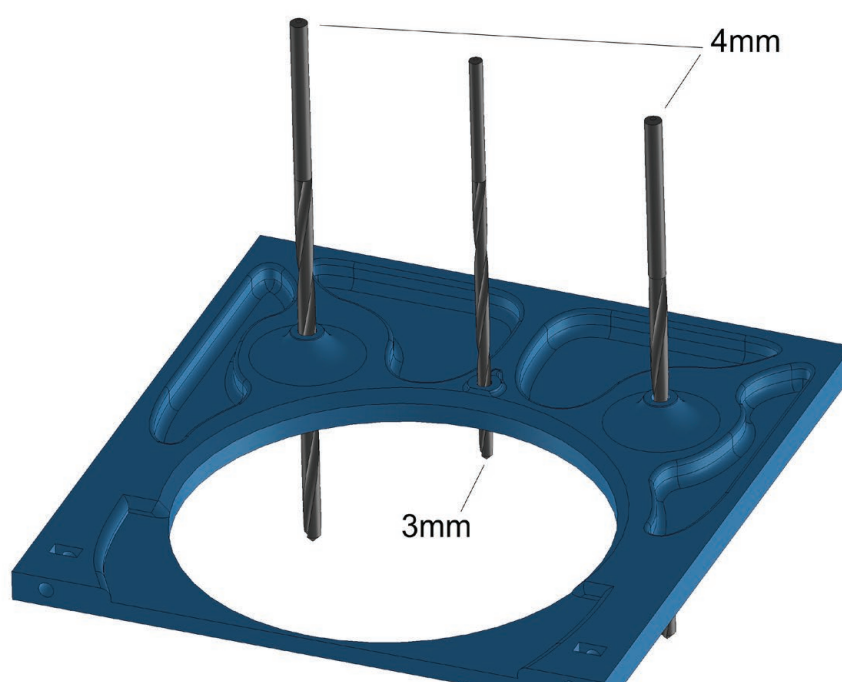
Assembly 04 (front cover)

step 1



Drill the holes in part 04-01. Use 3-3.5 and 4-4.5mm drill bits.

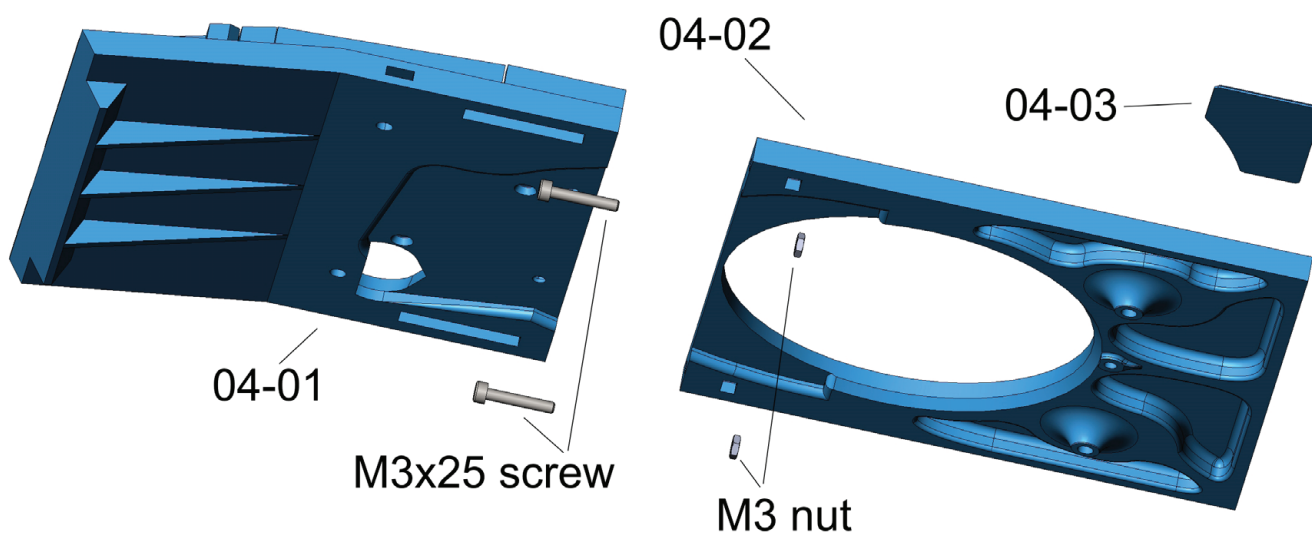
step 2



Drill the holes in part 04-02. Use 3-3.5 and 4-4.5mm drill bits.

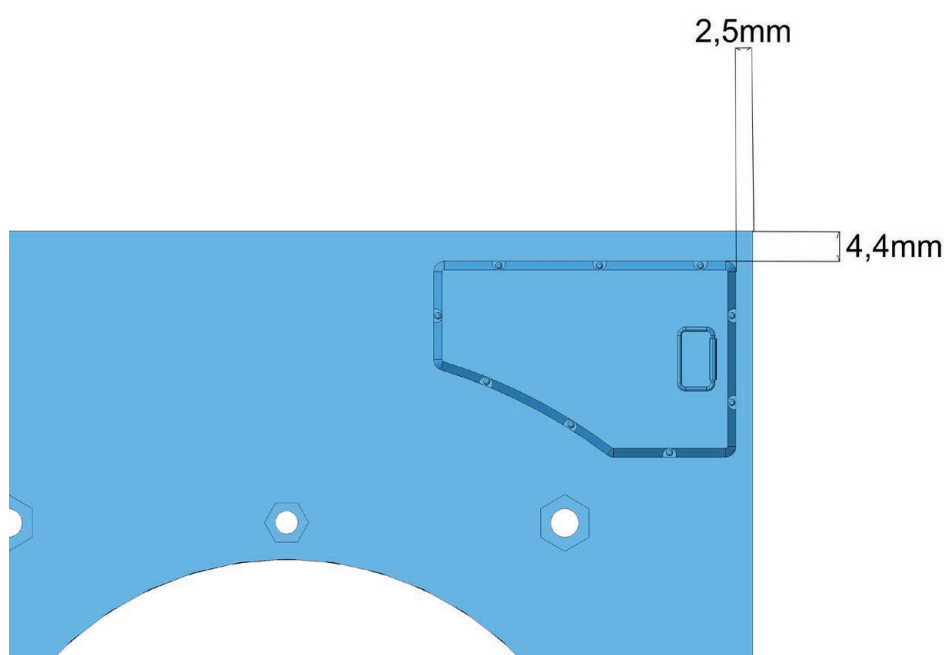
Assembly 04 (front cover)

step 3



Connect parts 04-01 and 04-02. Use M3x25mm screws and nuts.
Glue part 04-03.

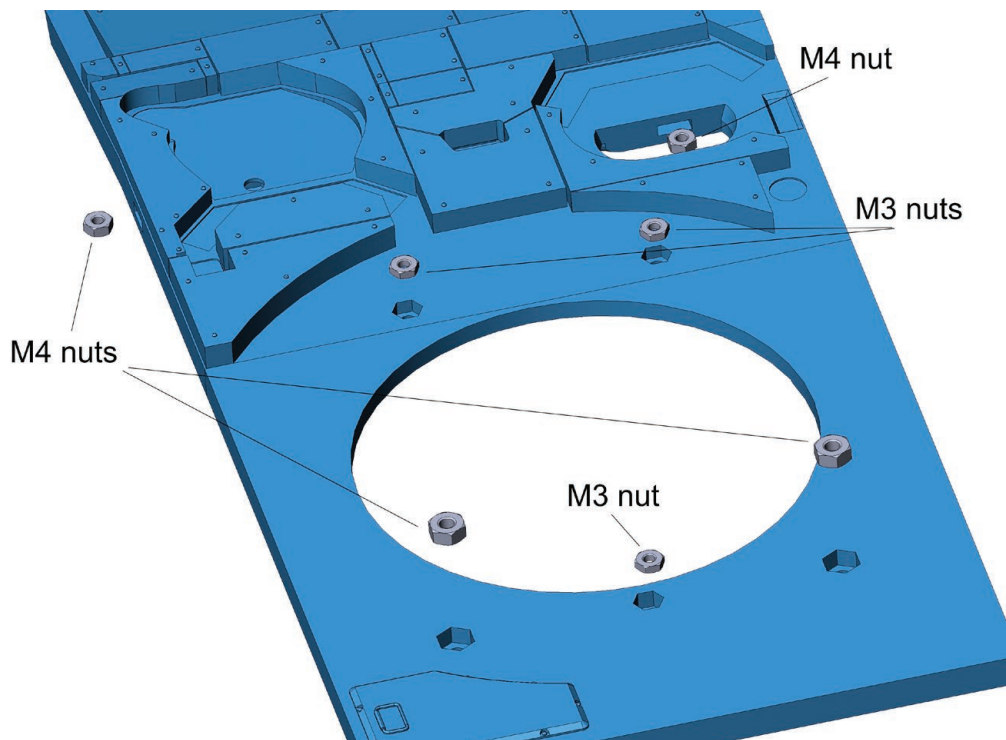
step 2 detail



Detail of position of part 04-03.

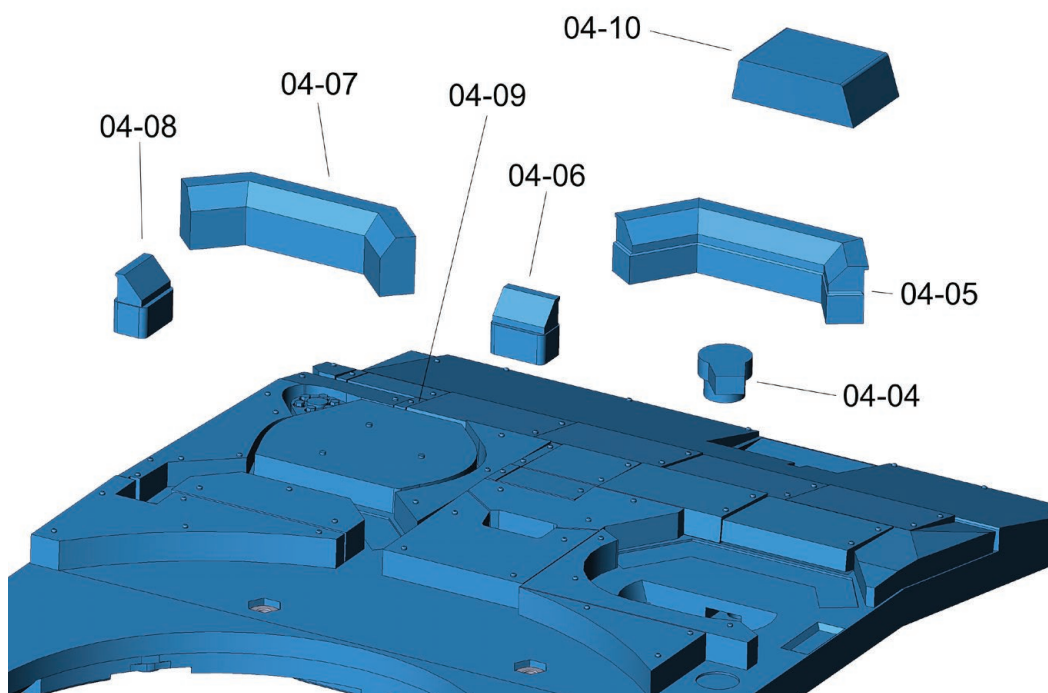
Assembly 04 (front cover)

step 3



Insert 4 nuts M4 and 3 nuts M3 according to the picture.

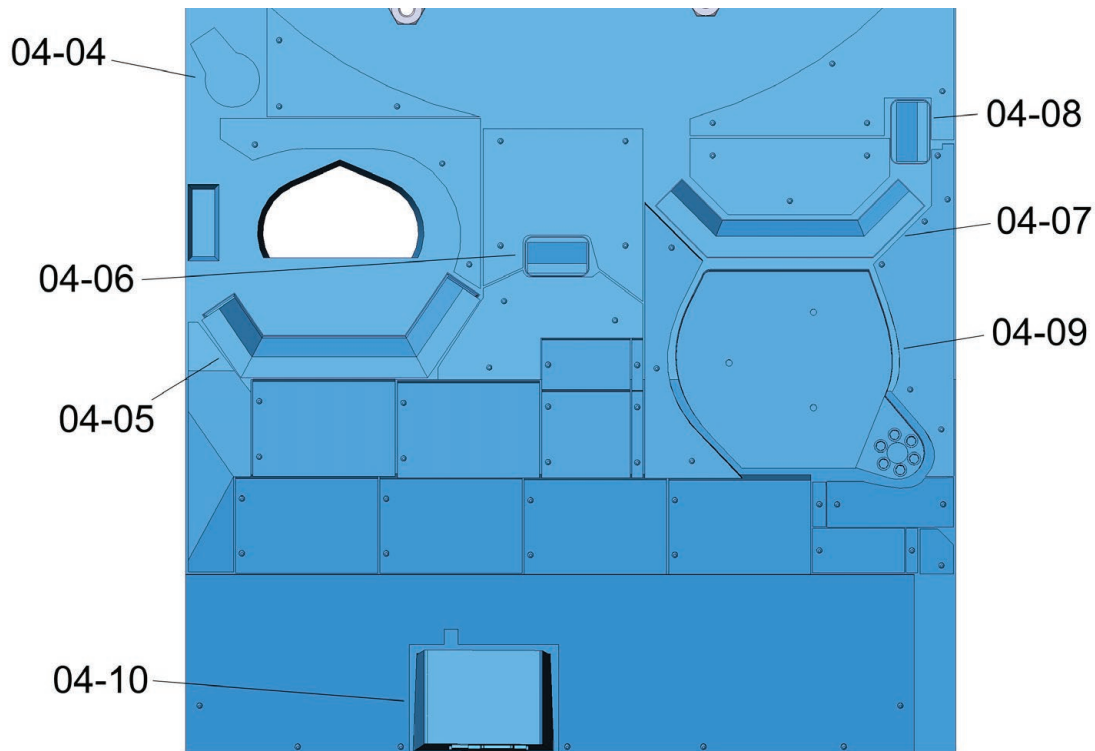
step 4



Glue parts 04-04 to 04-10.

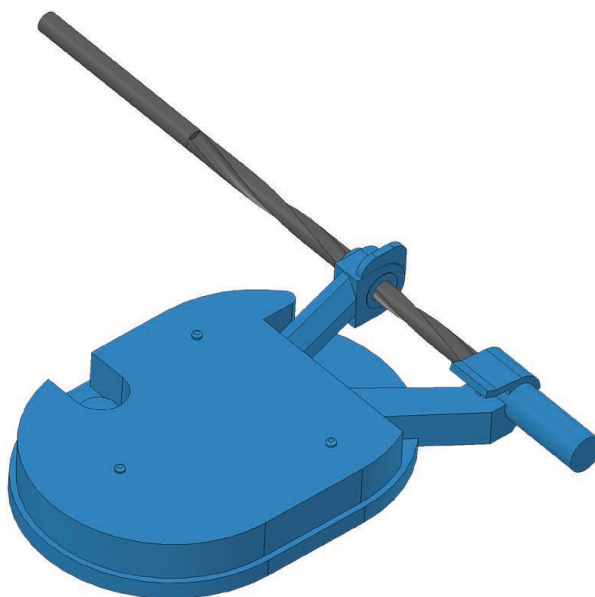
Assembly 04 (front cover)

step 4 detail



Top view of parts 04-04 to 04-10.

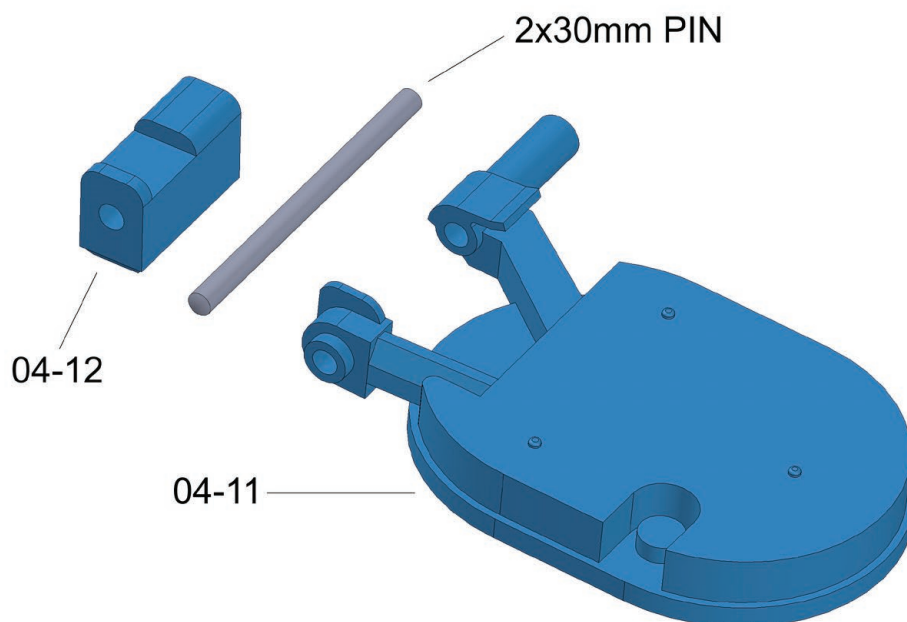
step 5



Drill a 2mm hole for the pin in part 04-11.

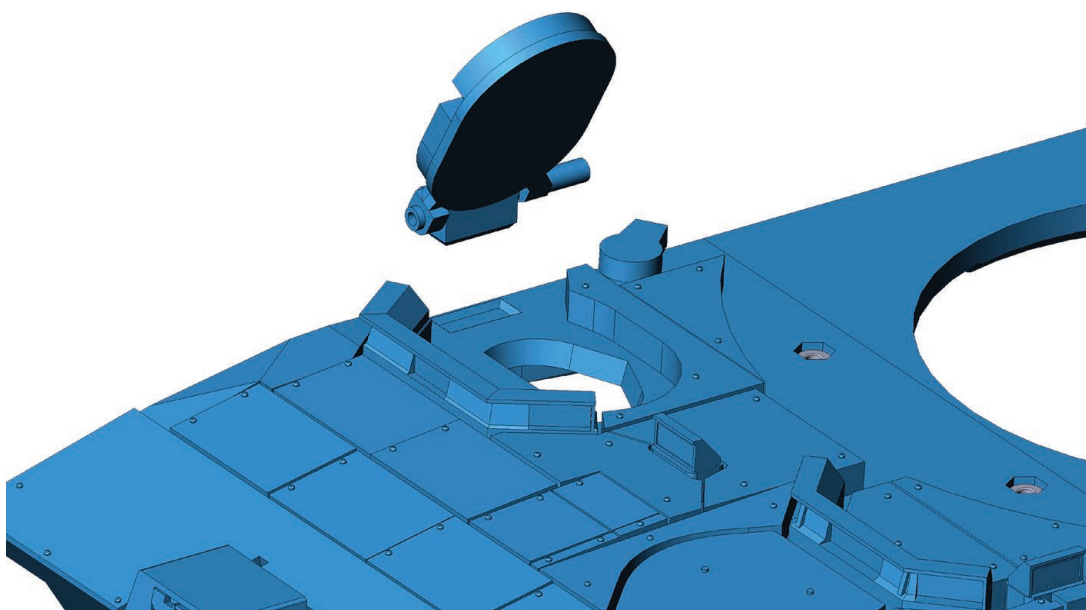
Assembly 04 (front cover)

step 6



Connect parts 04-11 and 04-12 with a pin of 2mm diameter and 25-30mm length.
Check that the hatch rotates freely.

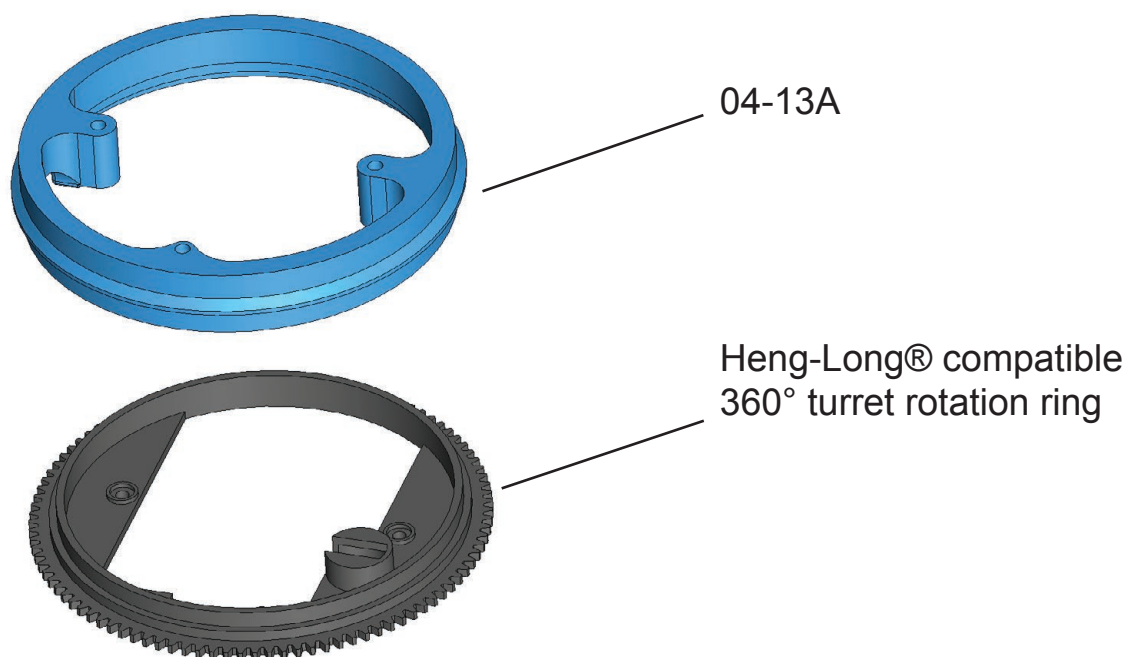
step 7



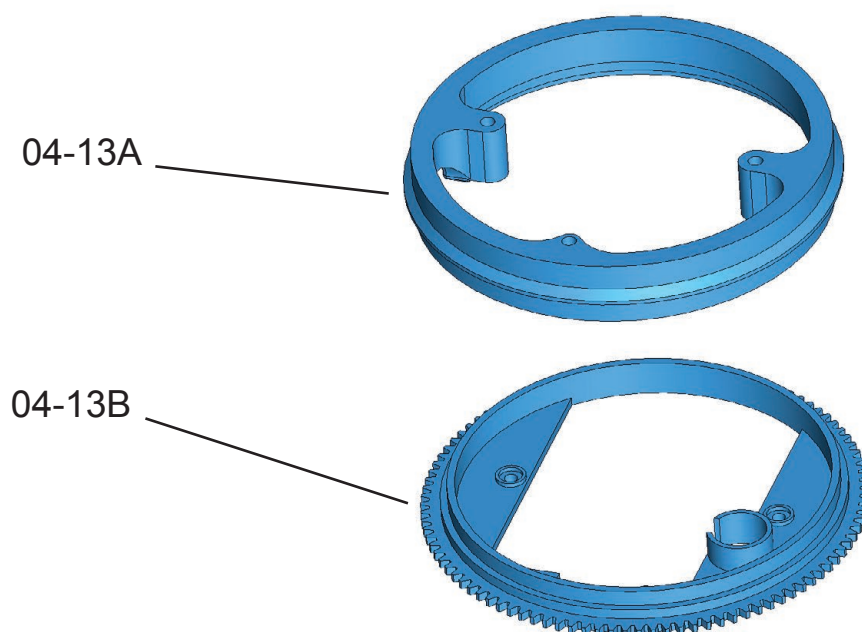
Glue parts 04-11 and 04-12 to assembly 04.

Assembly 04 (front cover)

step 8



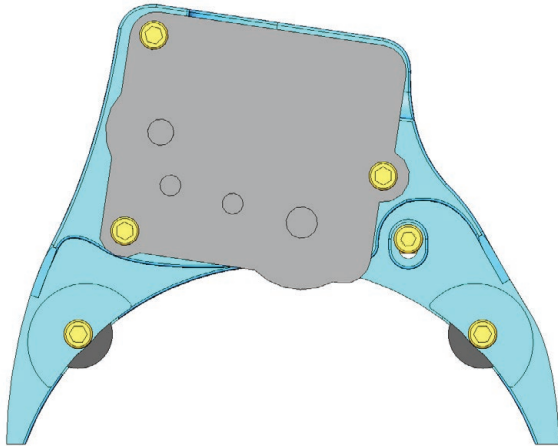
OR



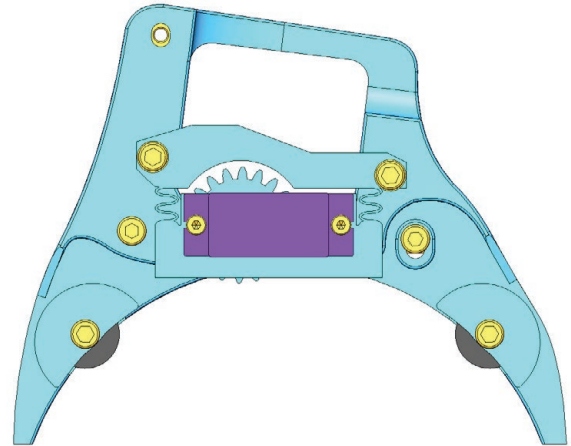
Prepare a rotating ring.
Use a Heng-Long® compatible 360° rotation ring.
Attach it to part 04-13A. If you do not have the ring, use part 04-13B.

Assembly 04 (front cover)

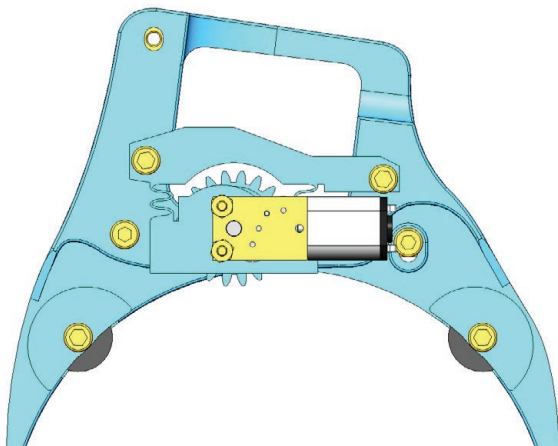
turret rotation motor



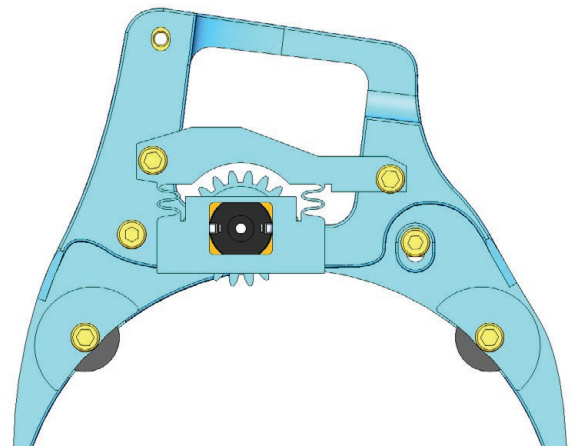
Heng-Long® or compatible
turret rotation motor



FS90R 360° servo
or compatible
+ **03-17_S** and **03-18_S**



JGY-N20 or compatible
geared N20 motor with worm gear
and 90° angle shaft
+ **03-17_JGY** and **03-18_JGY**

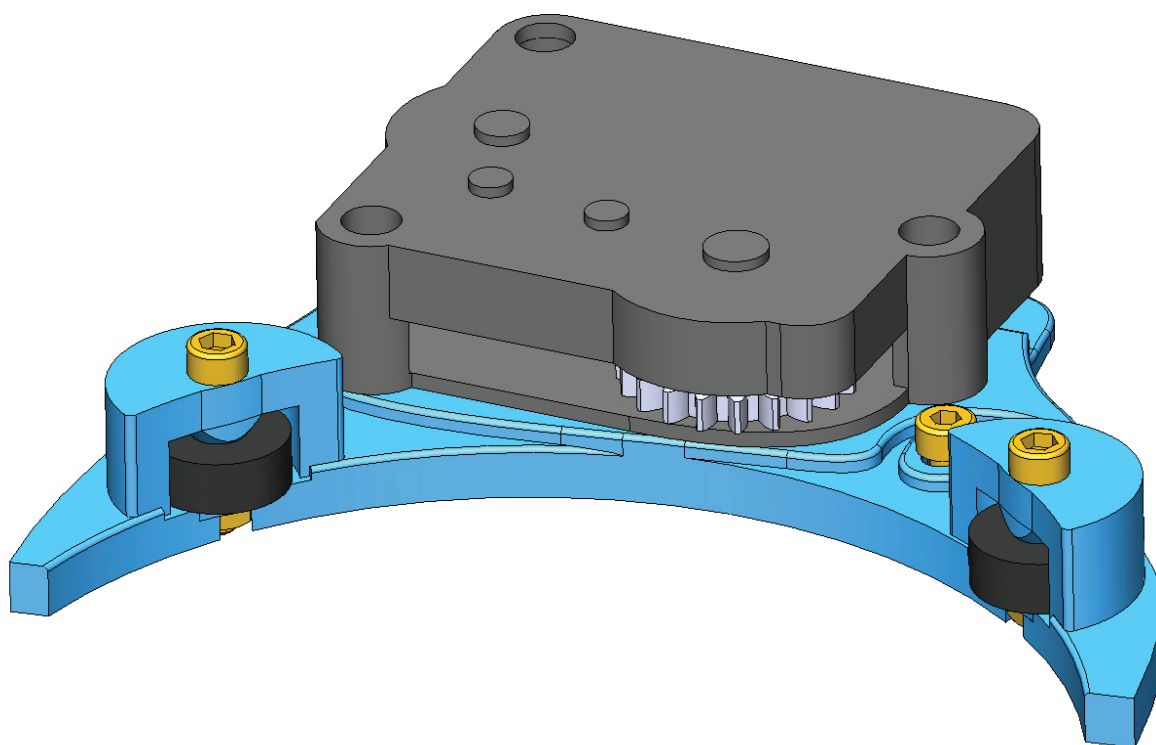


N20 geared motor
or **HPCB Pololu Micro Motor**
+ **03-17_N20** and **03-18_N20**

You can use 4 different types of motors for turret rotation.
This section of the guide will show you how to install each of them.

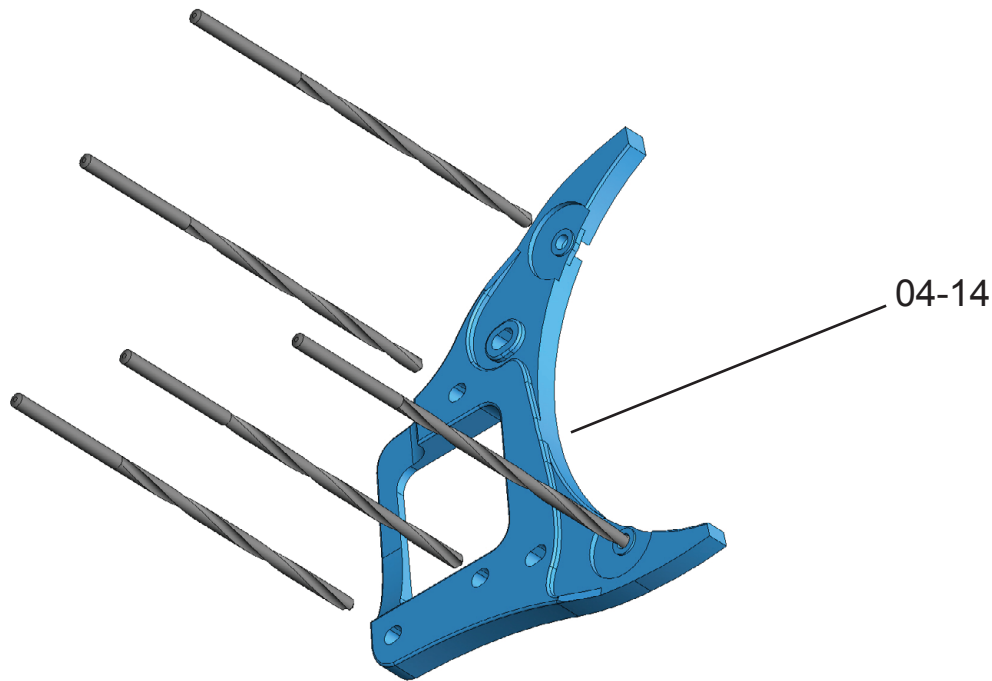
Assembly 04 (front cover)

Heng-Long® or compatible turret rotation motor



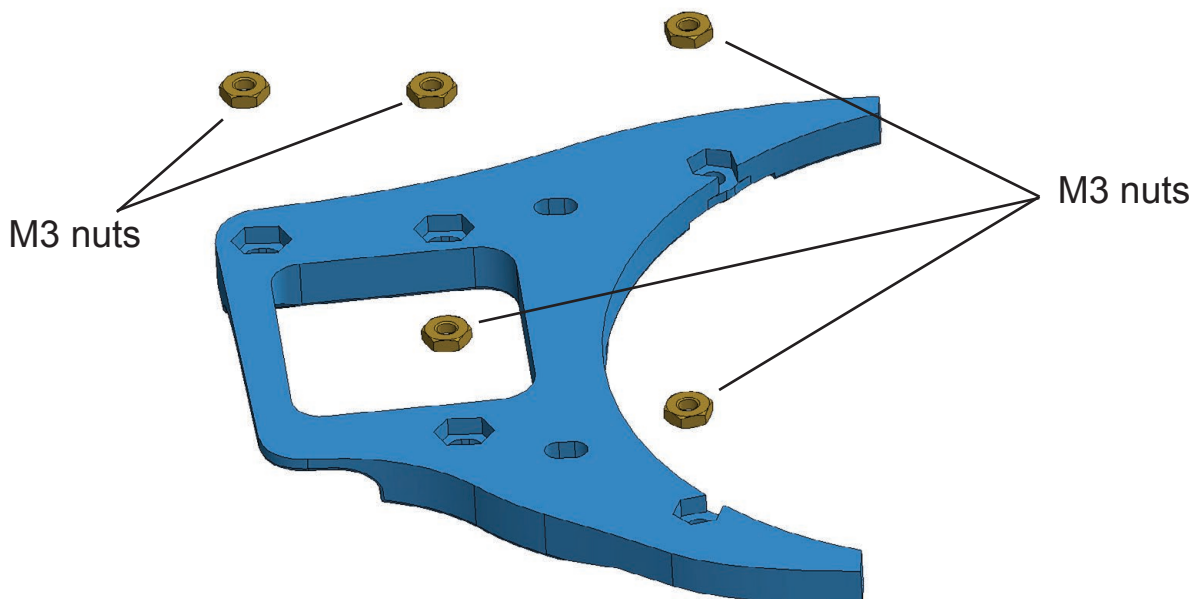
Assembly 04 (front cover)

step 9 - Heng-Long® or compatible turret rotation motor



Drill the holes in part 04-14. Use a 3-3.5mm diameter drill bit.

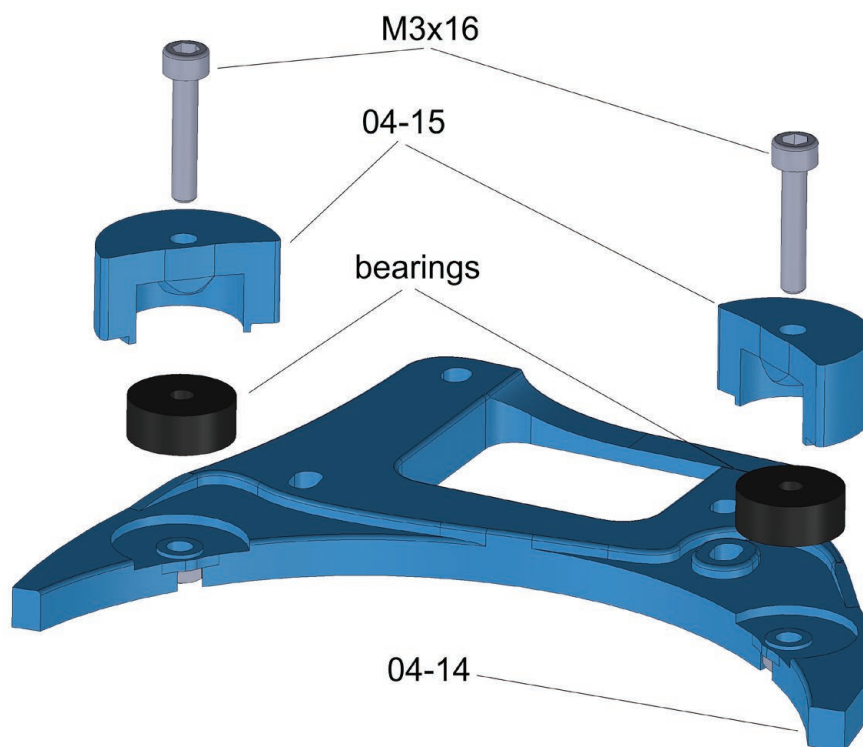
step 10 - Heng-Long® or compatible turret rotation motor



Insert the 4 nuts M3 into the part 04-14.

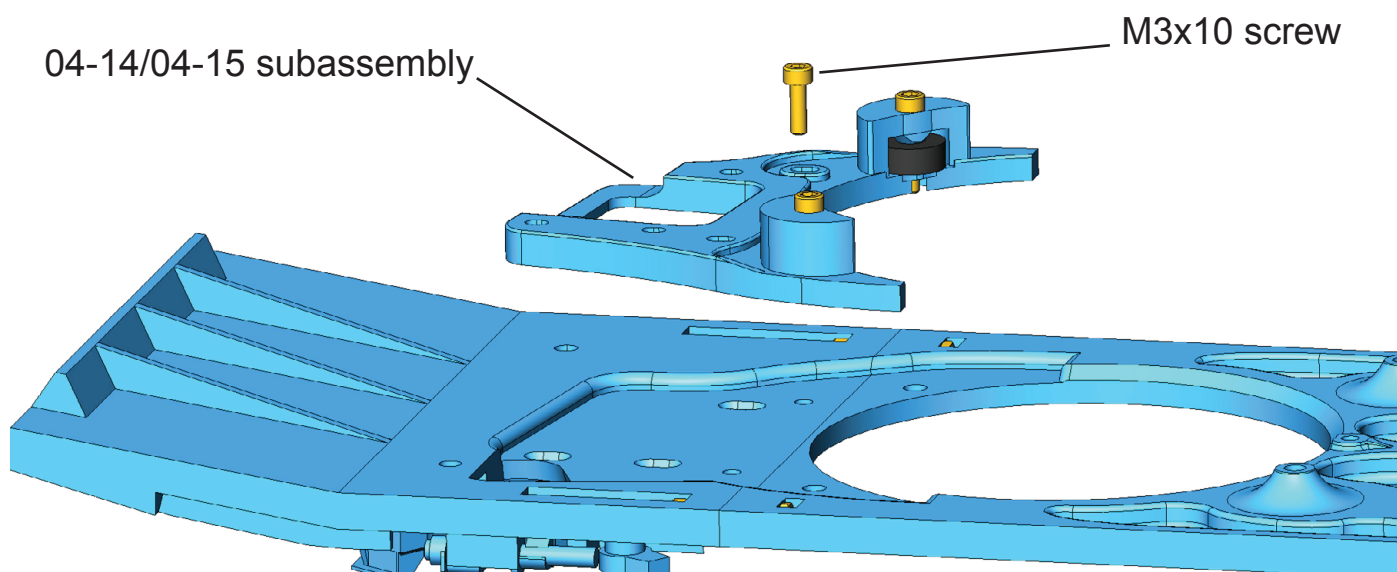
Assembly 04 (front cover)

step 11 - Heng-Long® or compatible turret rotation motor



Attach the 633zz bearings to part 04-14 using parts 04-15 and M3x16mm screws.

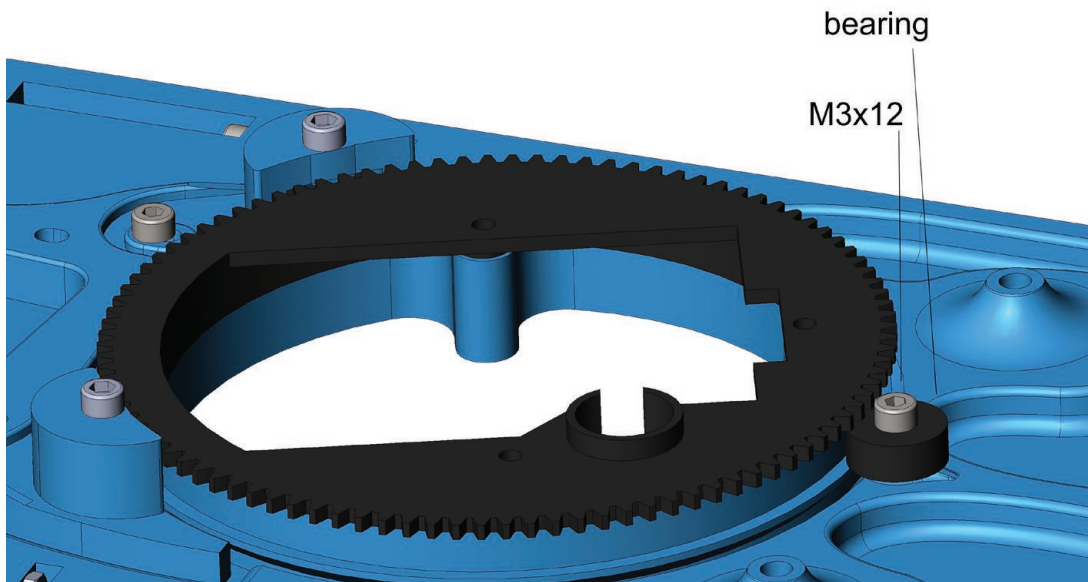
step 12 - Heng-Long® or compatible turret rotation motor



Attach assembly 04-14/04-15 to assembly 04.
Use only one M3x10mm screw for now and leave it loose.

Assembly 04 (front cover)

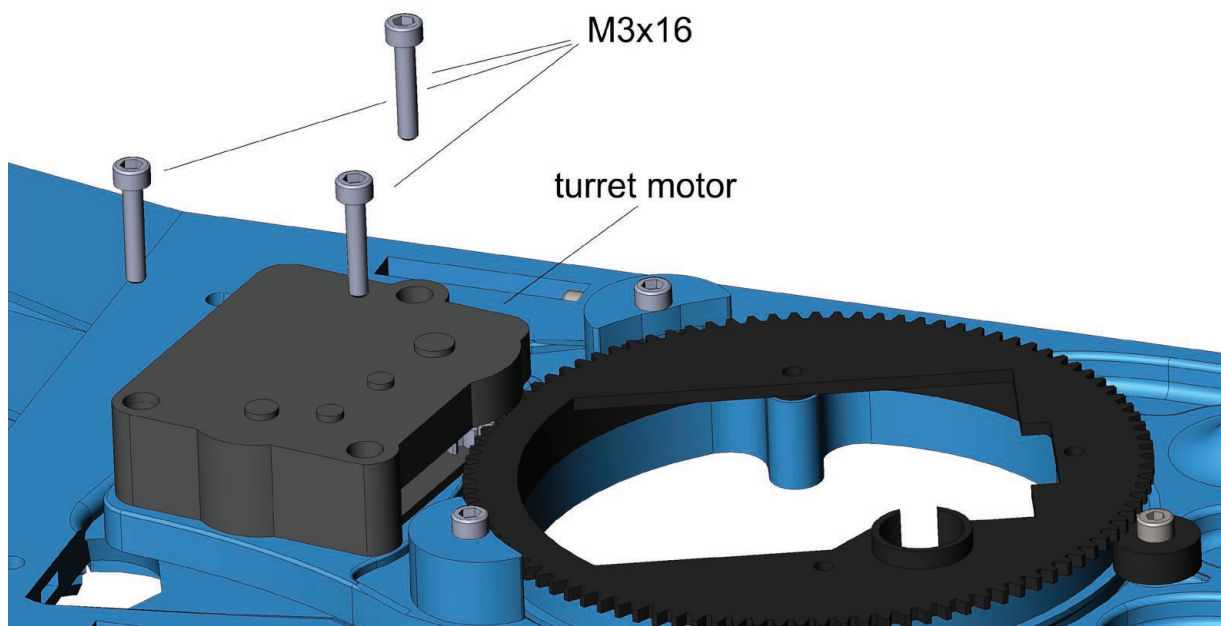
step 13 - Heng-Long® or compatible turret rotation motor



Insert the assembly of part 04-13 (see step 8) into assembly 04 and secure with bearing 633zz using an M3x12mm screw.

Adjust the appropriate clearance between the bearings and part 04-13.

step 14 - Heng-Long® or compatible turret rotation motor



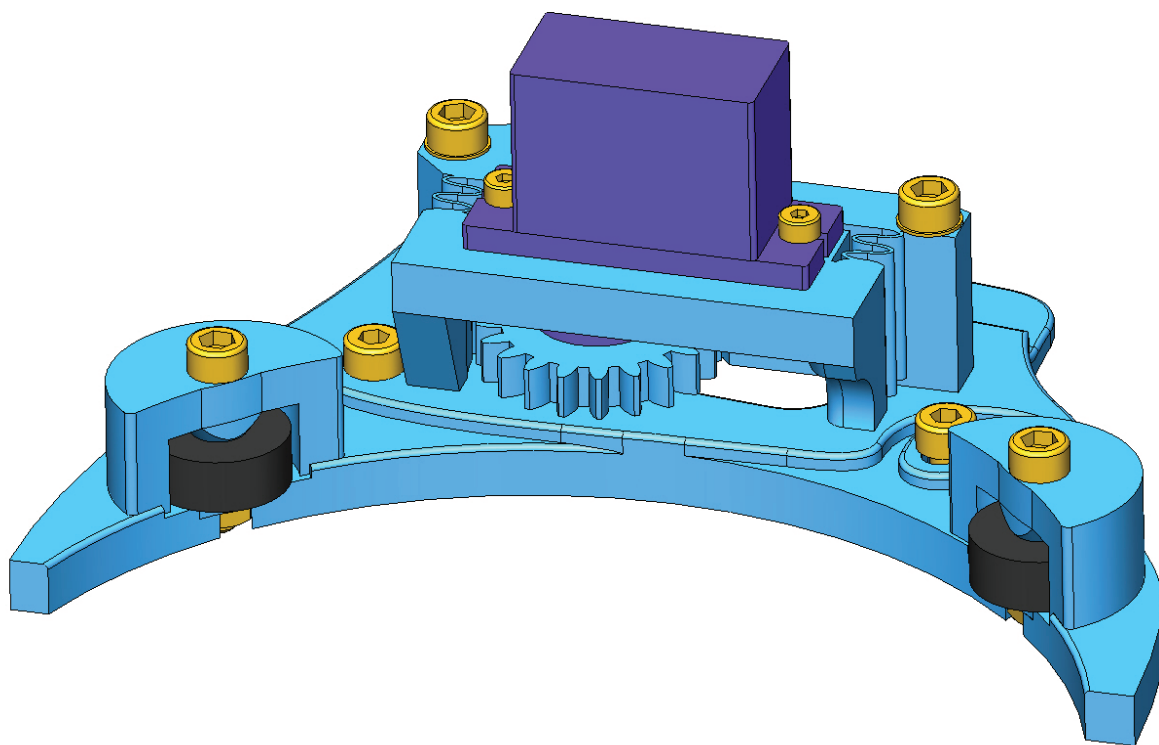
Insert the turret rotation motor and adjust the correct clearance between the gears. After adjustment, tighten the screws. The motor just needs to be fixed with two screws.

Check all clearances in the turret rotation mechanism.

In case of large or small clearance, loosen the M3x10 screw and M3x16 screws and adjust the correct position of the 04-14 part or turret rotation motor.

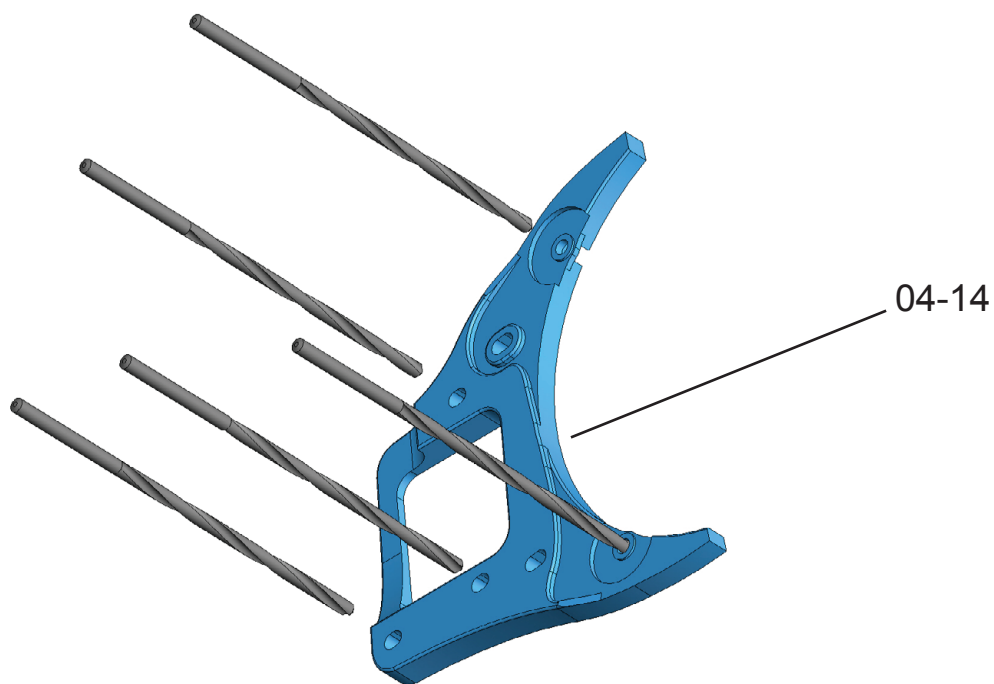
Assembly 04 (front cover)

FS90R 360° servo or compatible



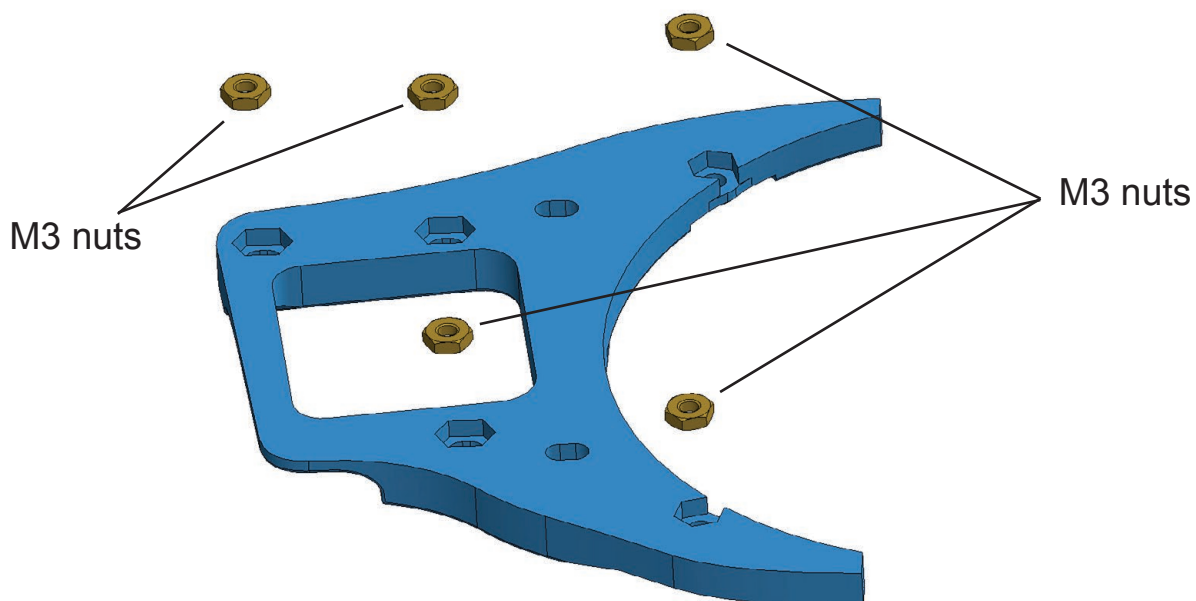
Assembly 04 (front cover)

step 9 - FS90R 360° servo



Drill the holes in part 04-14. Use a 3-3.5mm diameter drill bit.

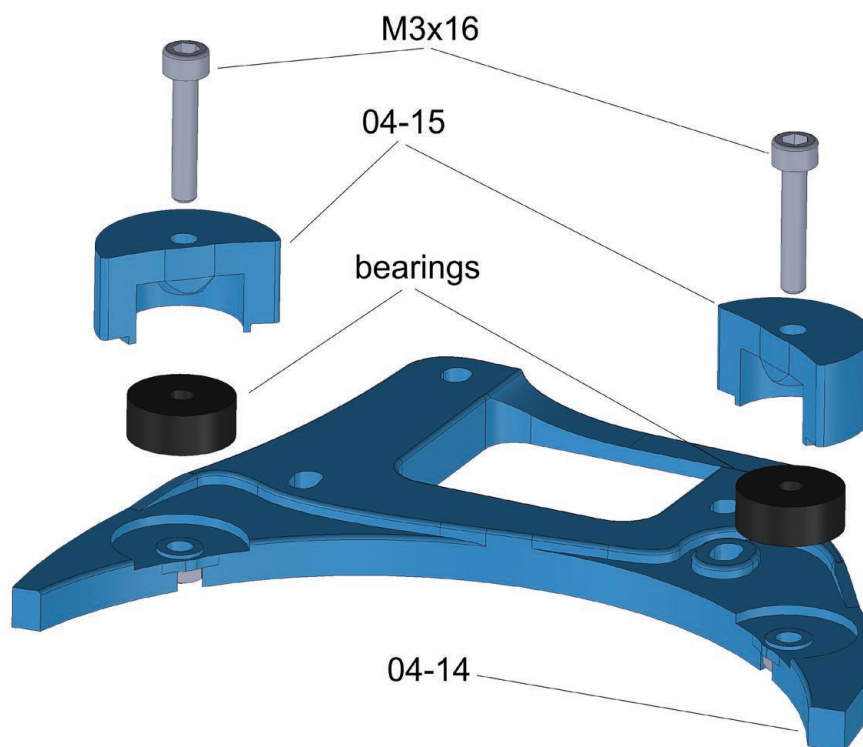
step 10 - FS90R 360° servo



Insert the 4 nuts M3 into the part 04-14.

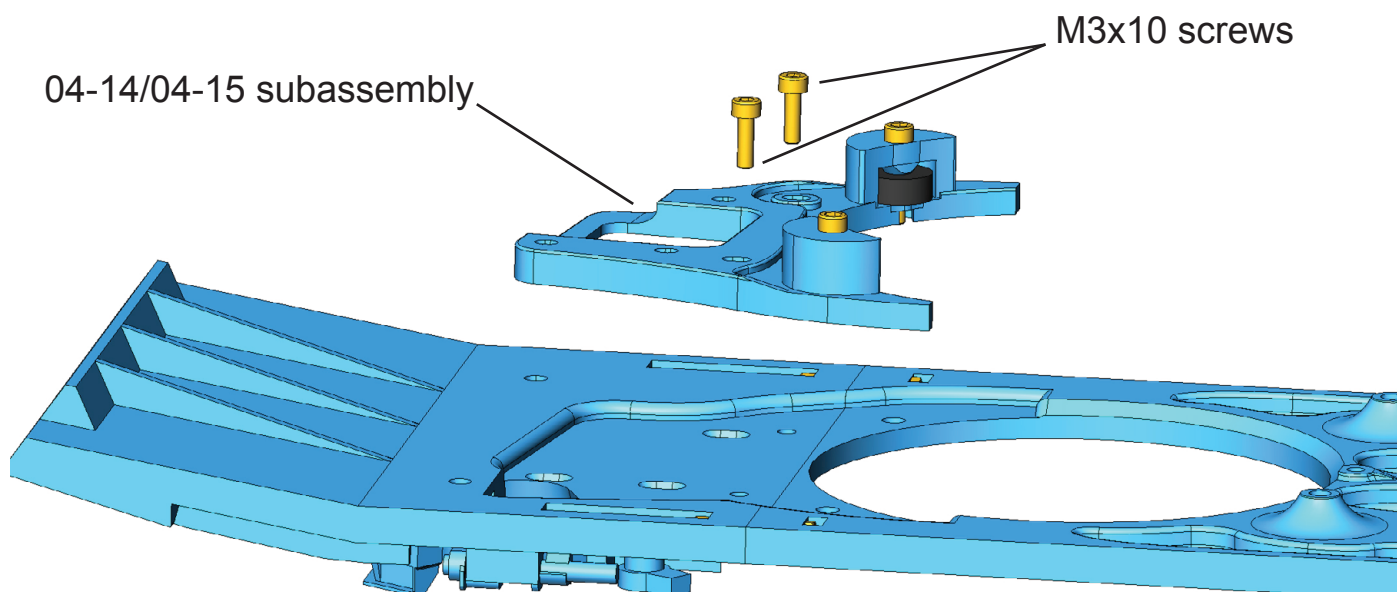
Assembly 04 (front cover)

step 11 - FS90R 360° servo



Attach the 633zz bearings to part 04-14 using parts 04-15 and M3x16mm screws.

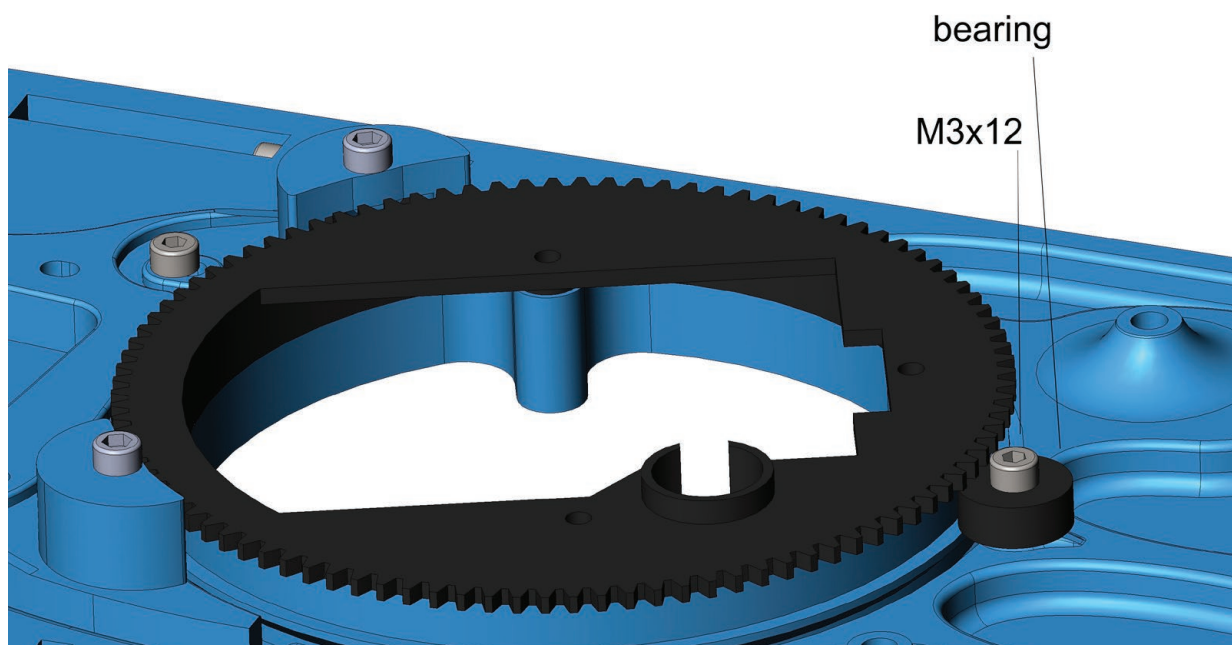
step 12 - FS90R 360° servo



Attach assembly 04-14/04-15 to assembly 04.
Use two M3x10mm screws and leave it loose for now.

Assembly 04 (front cover)

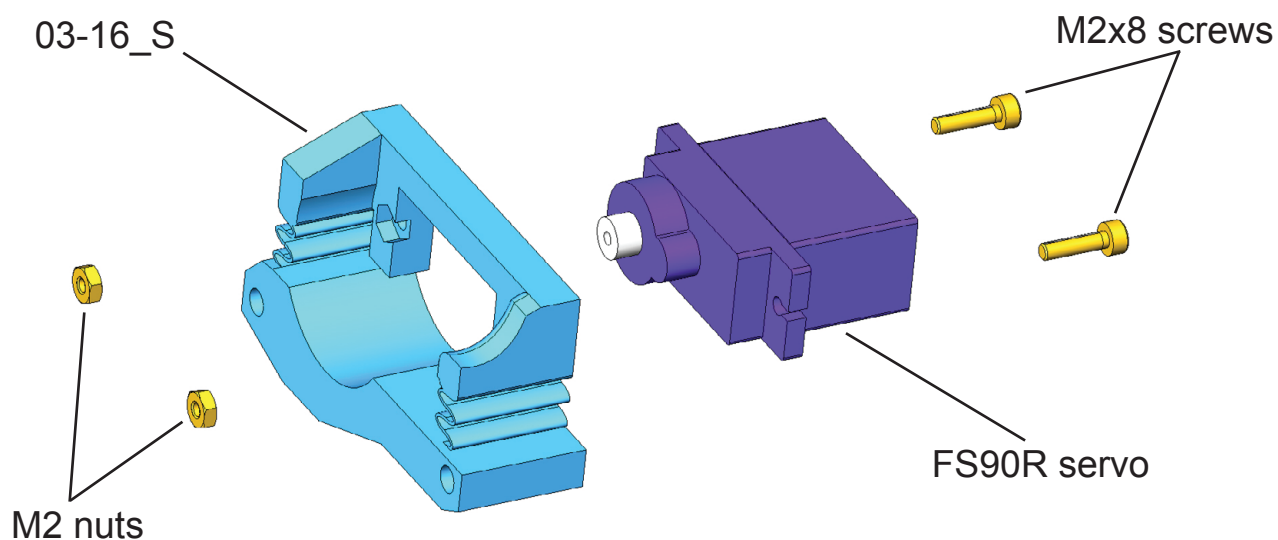
step 13 - FS90R 360° servo



Insert the assembly of part 04-13 (see step 8) into assembly 04 and secure with bearing 633zz using an M3x12mm screw.

Adjust the appropriate clearance between the bearings and part 04-13.

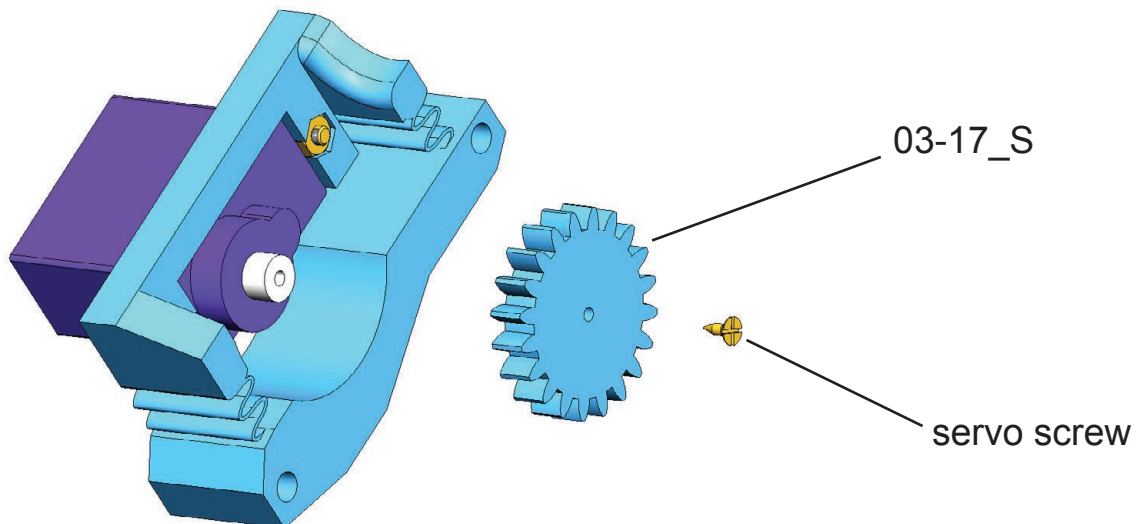
step 14 - FS90R 360° servo



Attach a FS90R or other compatible servo to part 03-16_S.
Use two M2x8 screws and M2 nuts.

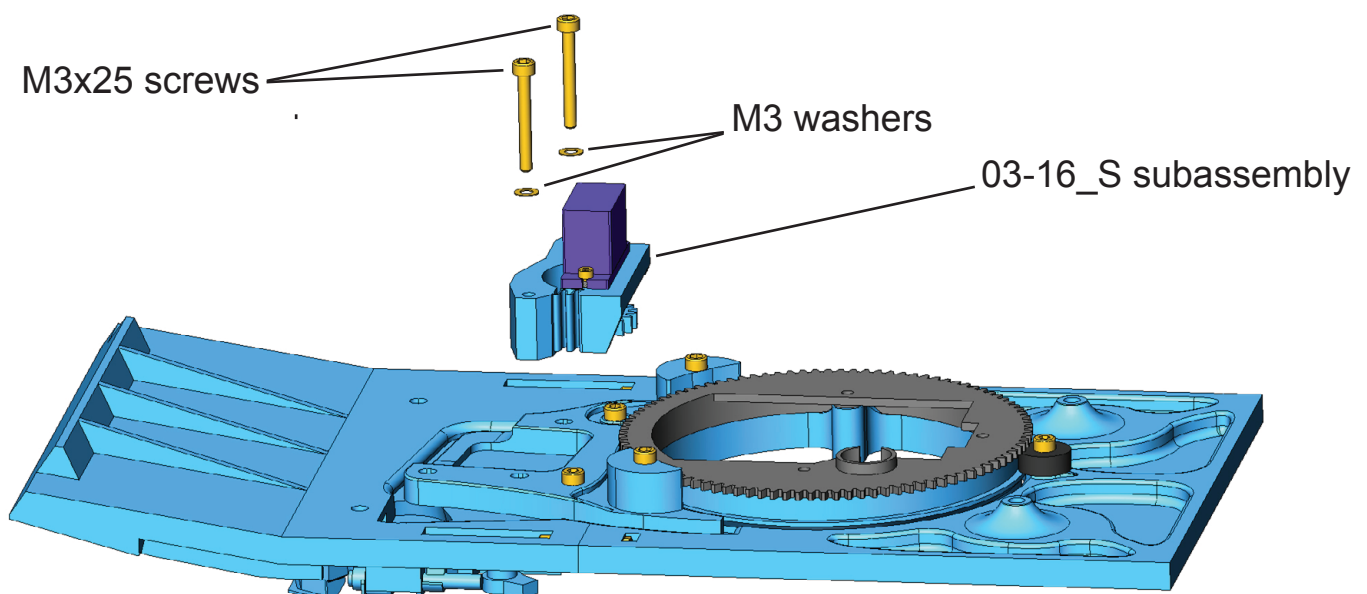
Assembly 04 (front cover)

step 15 - FS90R 360° servo



Attach the 03-17_S gear to the servo using the screw provided.
The screw is part of the servomotor package.

step 16 - FS90R 360° servo



Install the servo using two M3x25 screws and 2 M3 washers and
adjust the correct clearance between the gears.

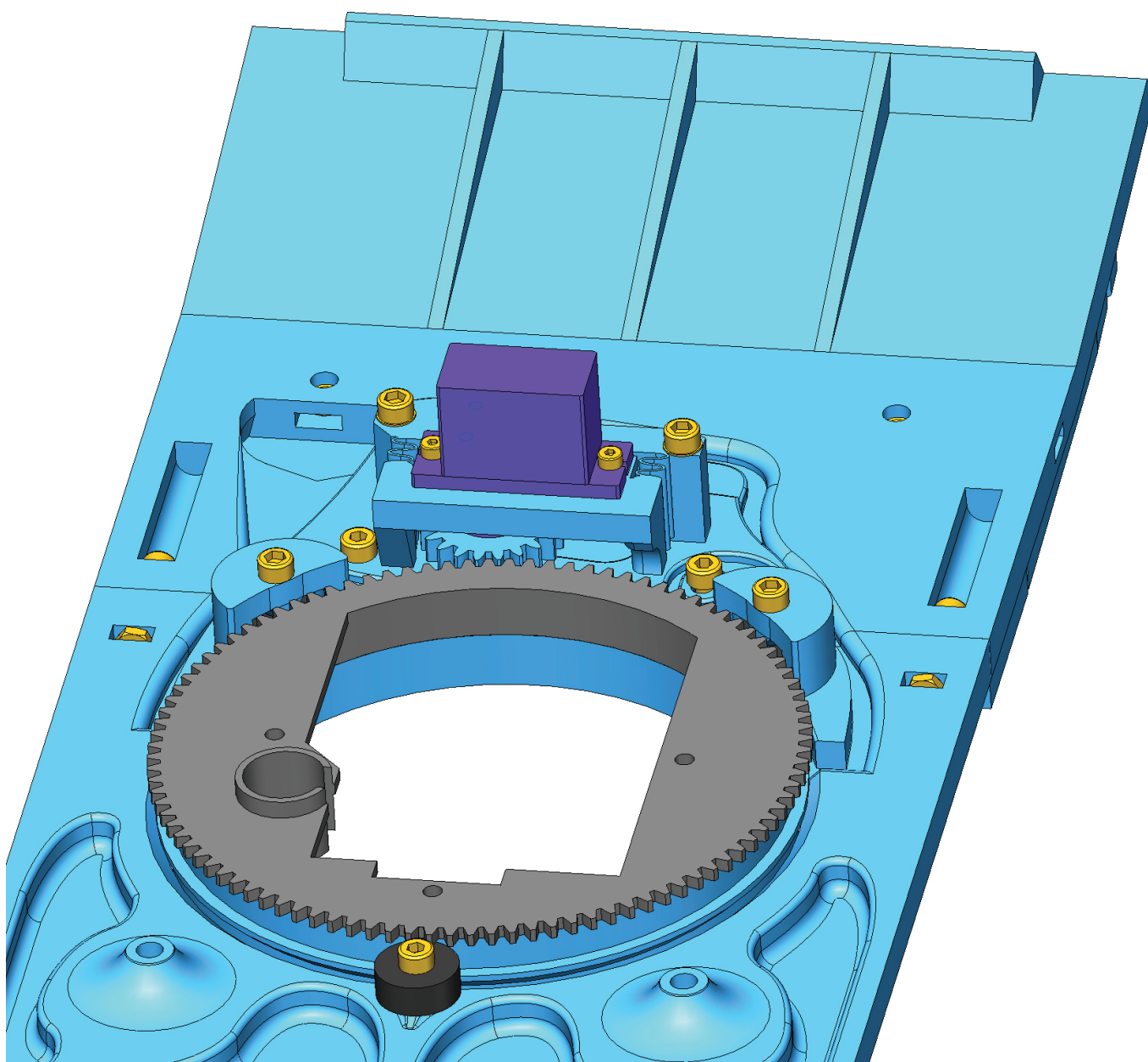
After adjustment, tighten the screws. The motor just needs to be fixed with two screws.

Check all clearances in the turret rotation mechanism.

In case of large or small clearance, loosen the M3x10 screws and
adjust the correct position of the 04-14 part or turret rotation motor.

Assembly 04 (front cover)

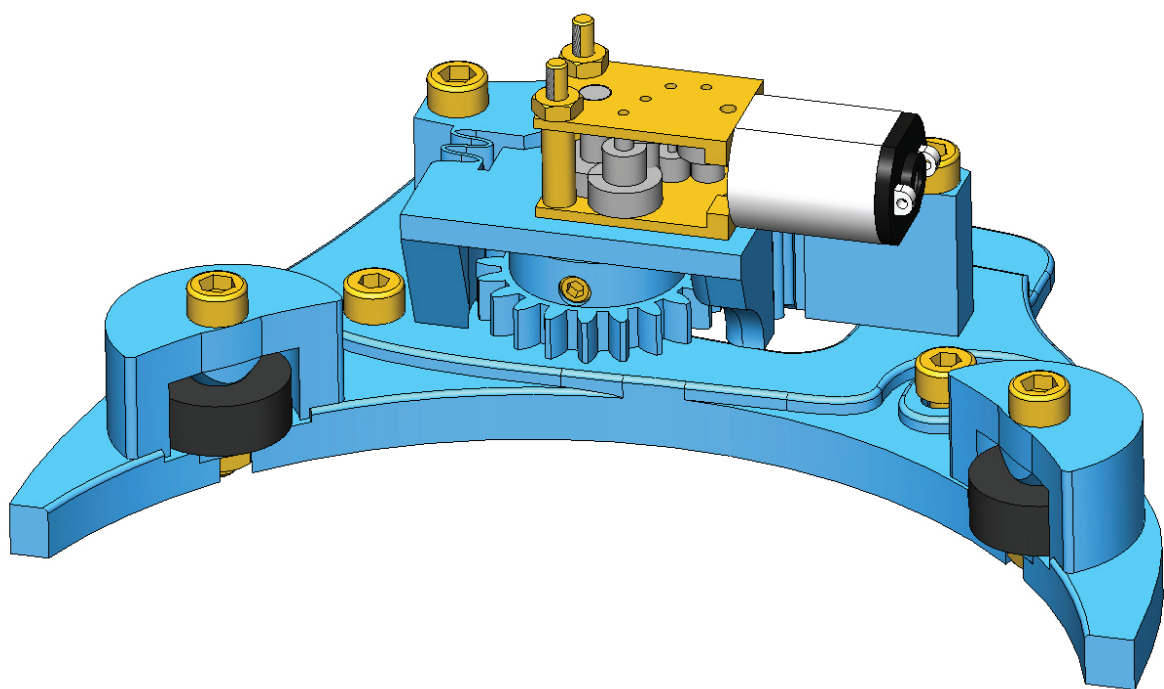
step 16 detail - FS90R 360° servo



Auxiliary view for servo installation.

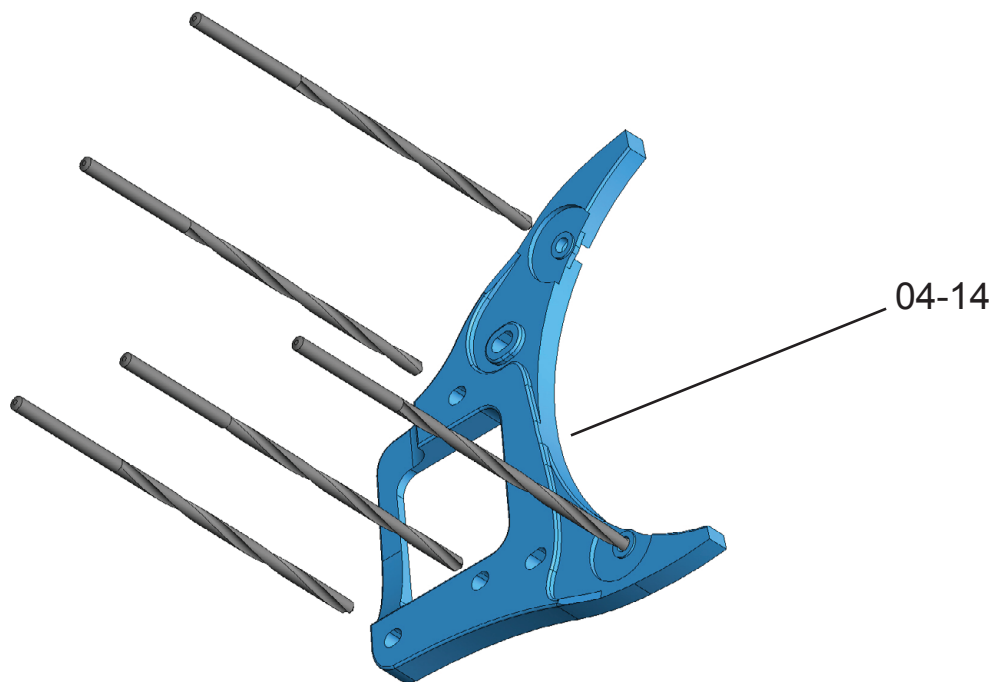
Assembly 04 (front cover)

JGY-N20 motor



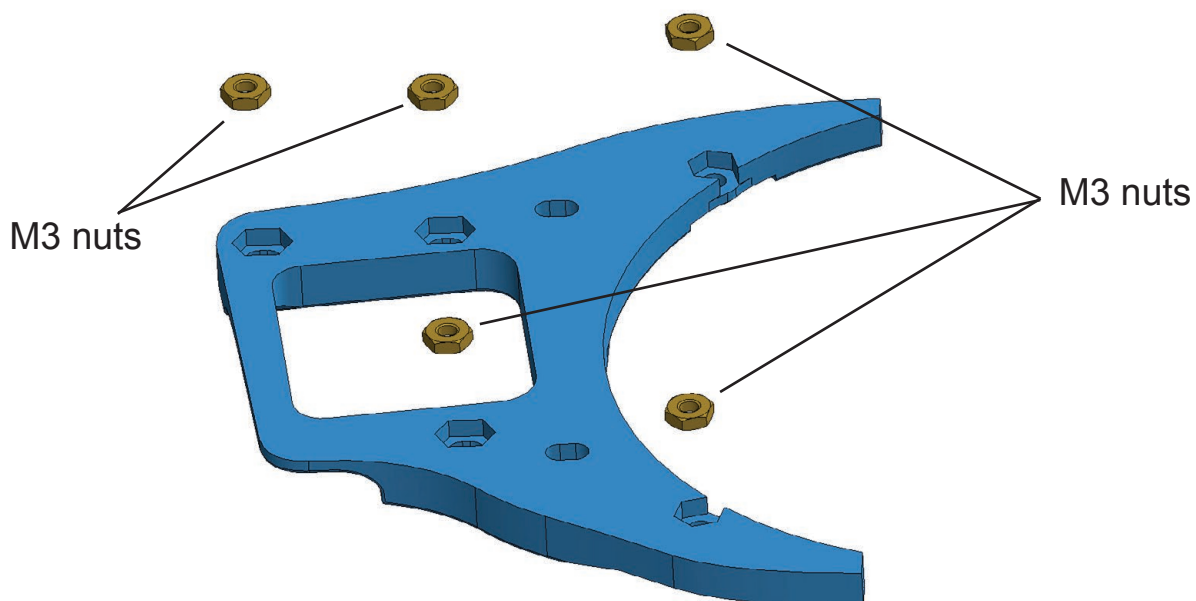
Assembly 04 (front cover)

step 9 - JGY-N20 motor



Drill the holes in part 04-14. Use a 3-3.5mm diameter drill bit.

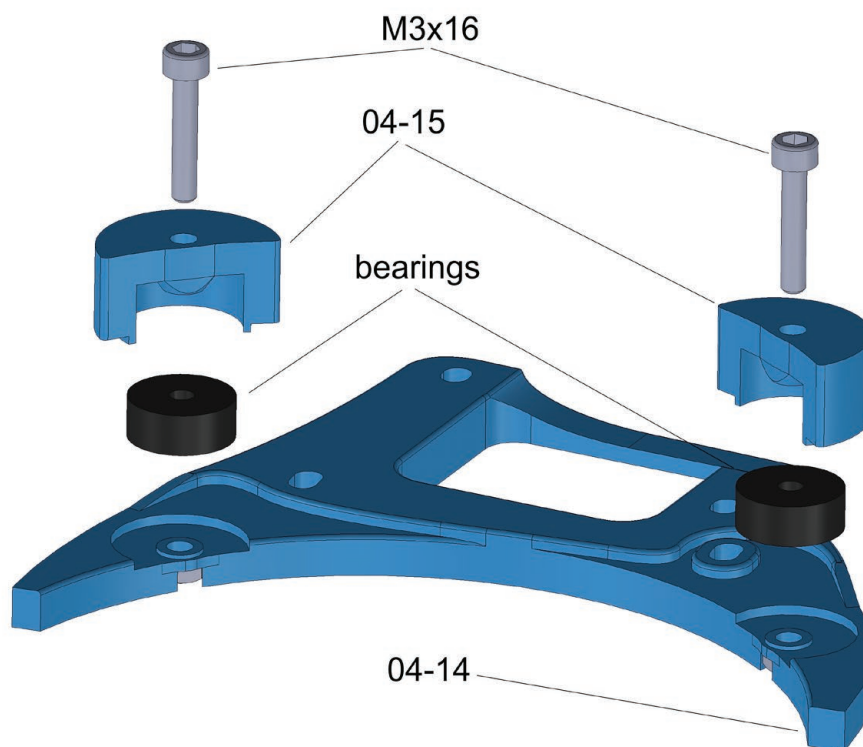
step 10 - JGY-N20 motor



Insert the 4 nuts M3 into the part 04-14.

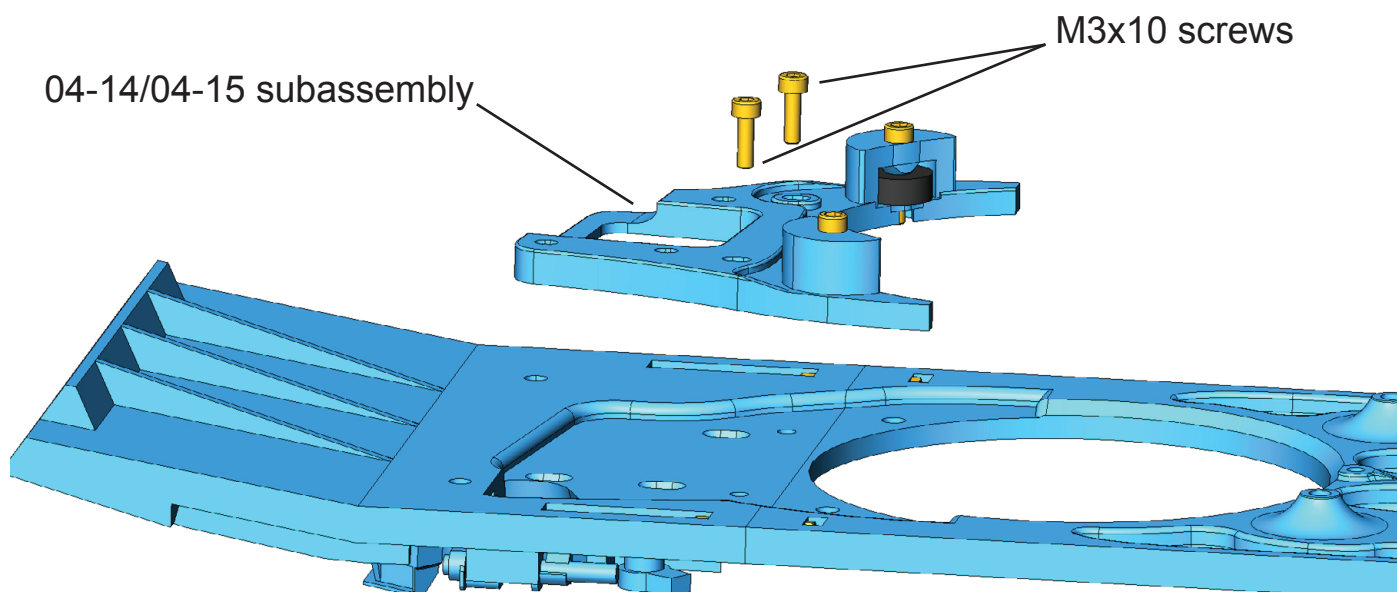
Assembly 04 (front cover)

step 11 - JGY-N20 motor



Attach the 633zz bearings to part 04-14 using parts 04-15 and M3x16mm screws.

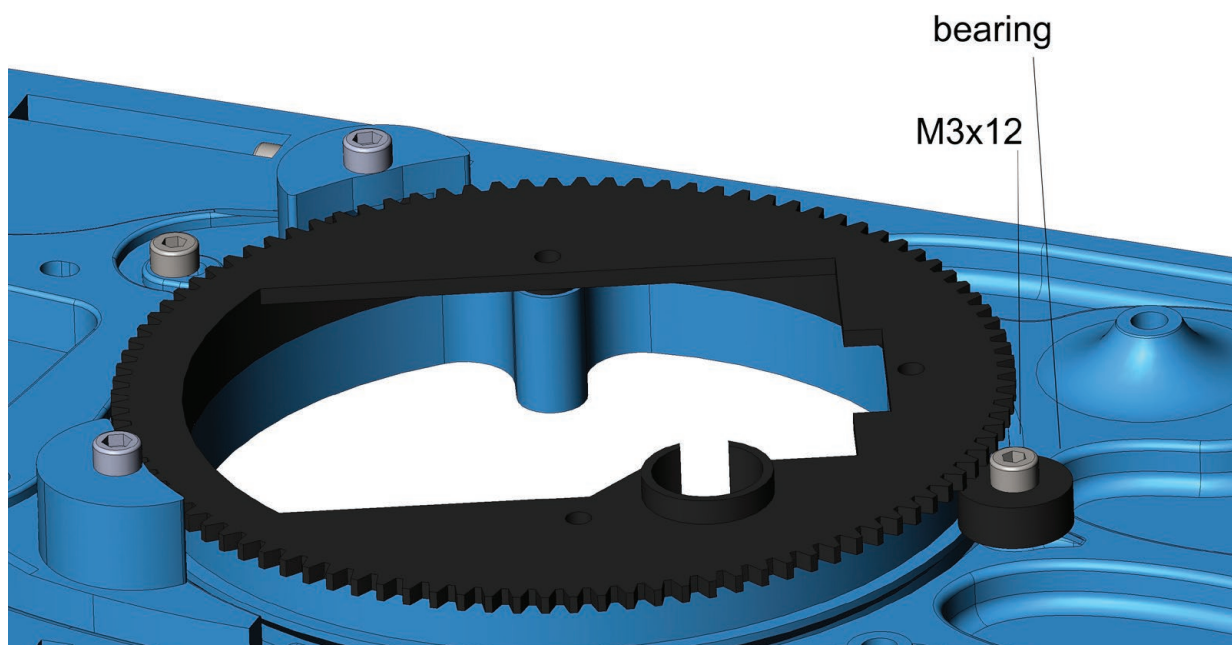
step 12 - JGY-N20 motor



Attach assembly 04-14/04-15 to assembly 04.
Use two M3x10mm screws and leave it loose for now.

Assembly 04 (front cover)

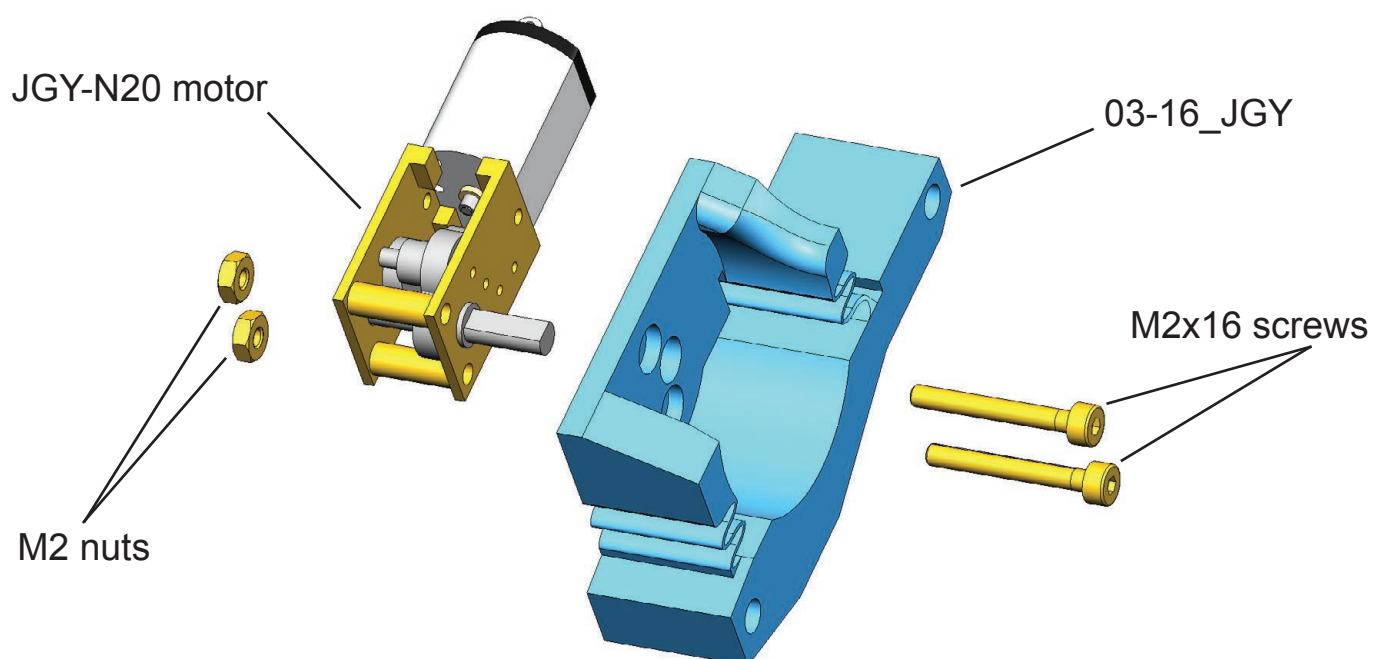
step 13 - JGY-N20 motor



Insert the assembly of part 04-13 (see step 8) into assembly 04 and secure with bearing 633zz using an M3x12mm screw.

Adjust the appropriate clearance between the bearings and part 04-13.

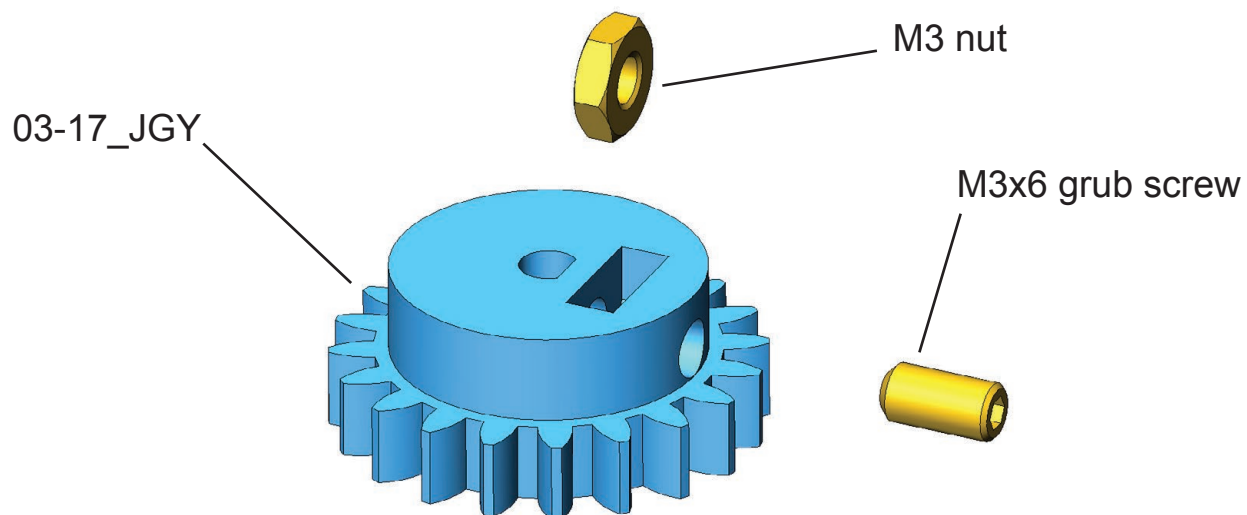
step 14 - JGY-N20 motor



Attach a JGY-N20 motor or other compatible motor to part 03-16_JGY.
Use two M2x16 screws and M2 nuts.

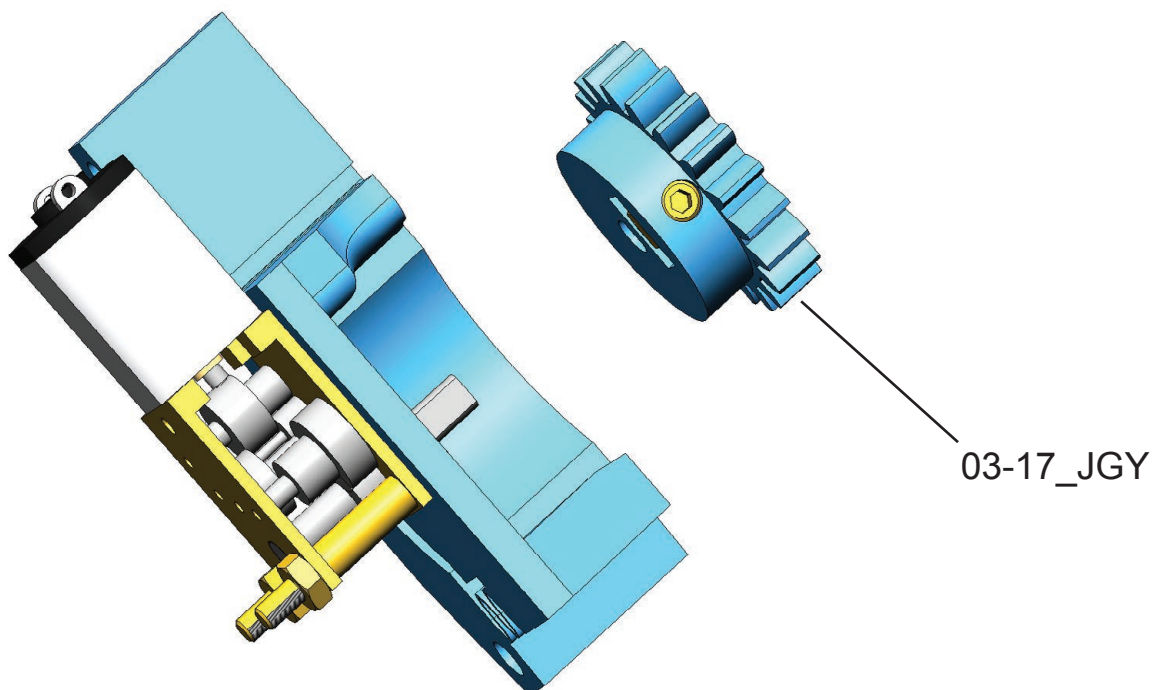
Assembly 04 (front cover)

step 15 - JGY-N20 motor



Insert the M3 nut into the 03-17_JGY part. Add the M3x6 grub screw.

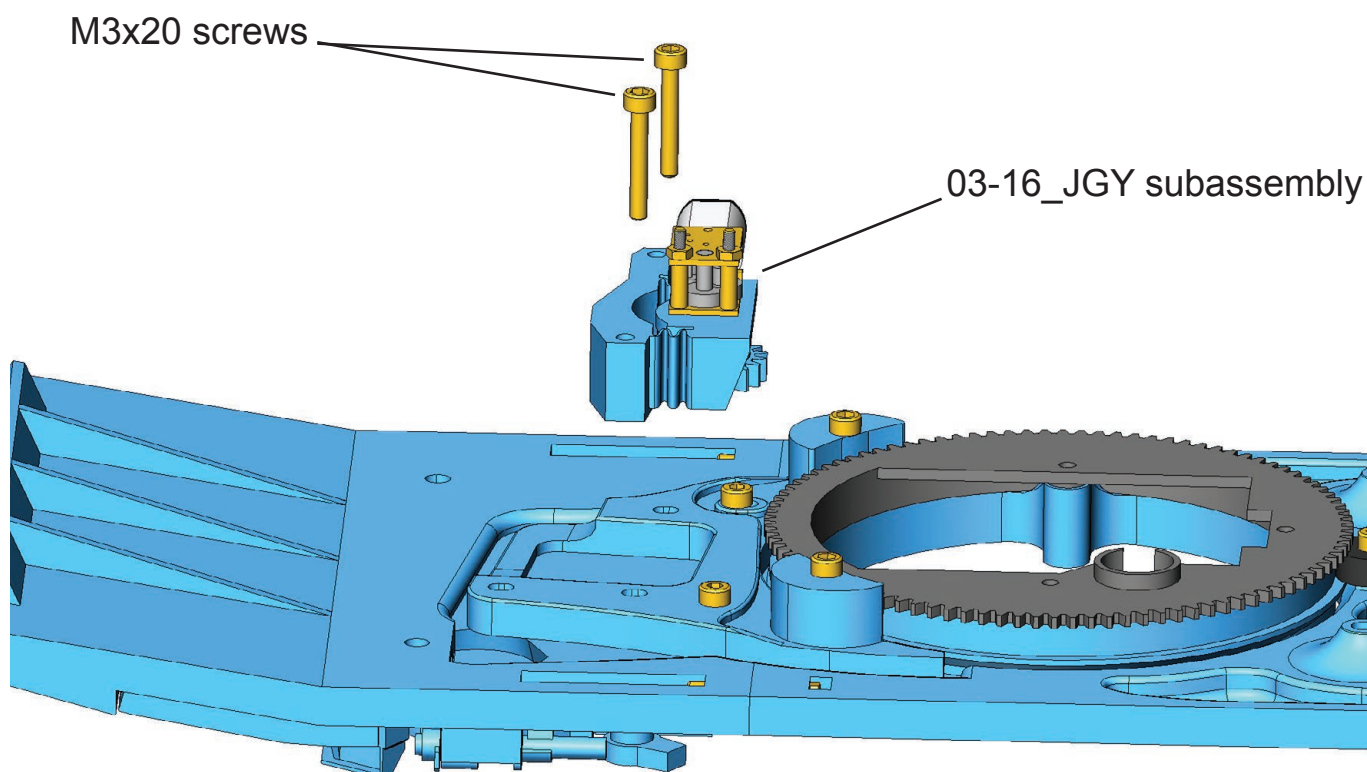
step 16 - JGY-N20 motor



Attach the 03-17_JGY gear to the motor shaft. Secure with a grub screw.

Assembly 04 (front cover)

step 17 - JGY-N20 motor



Install the motor using two M3x20 screws and adjust the correct clearance between the gears.

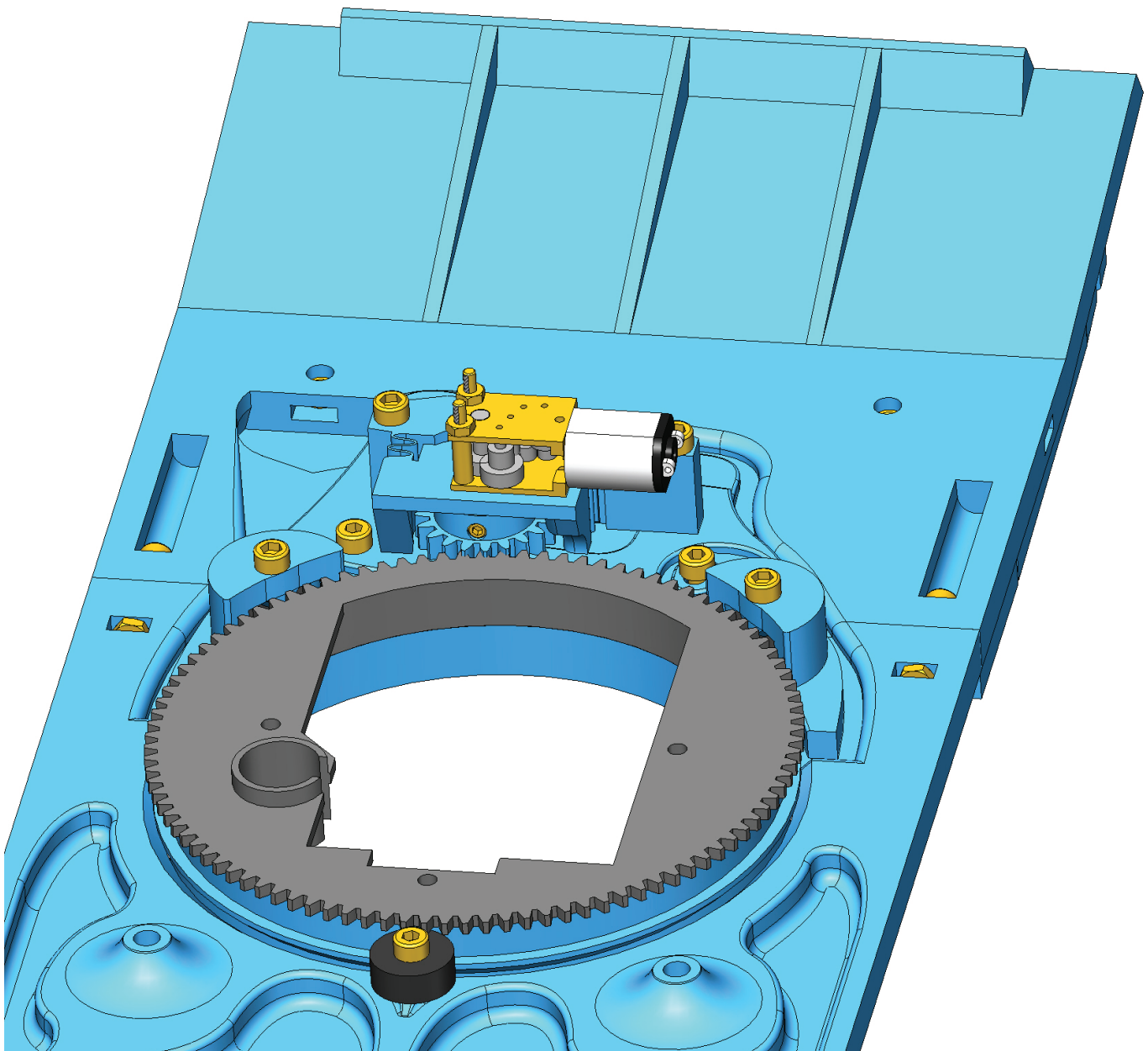
After adjustment, tighten the screws. The motor just needs to be fixed with two screws.

Check all clearances in the turret rotation mechanism.

In case of large or small clearance, loosen the M3x10 screws and adjust the correct position of the 04-14 part or turret rotation motor.

Assembly 04 (front cover)

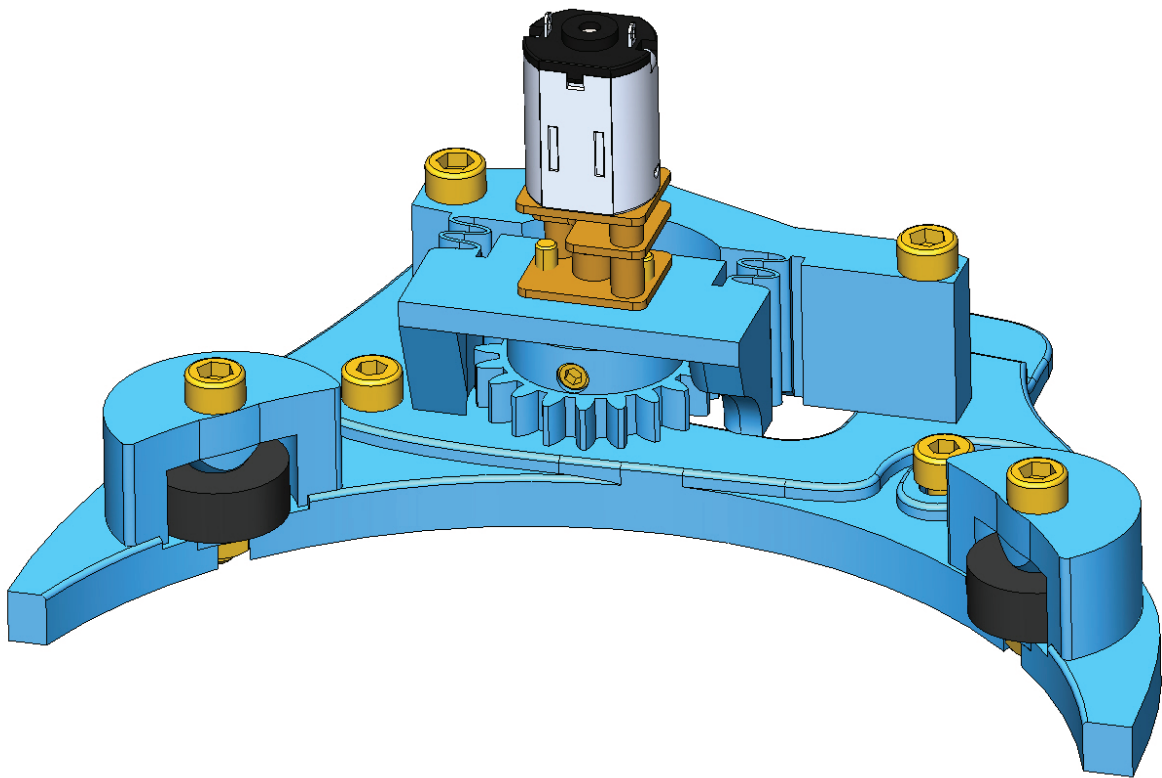
step 17 detail - JGY-N20 motor



Auxiliary view for motor installation.

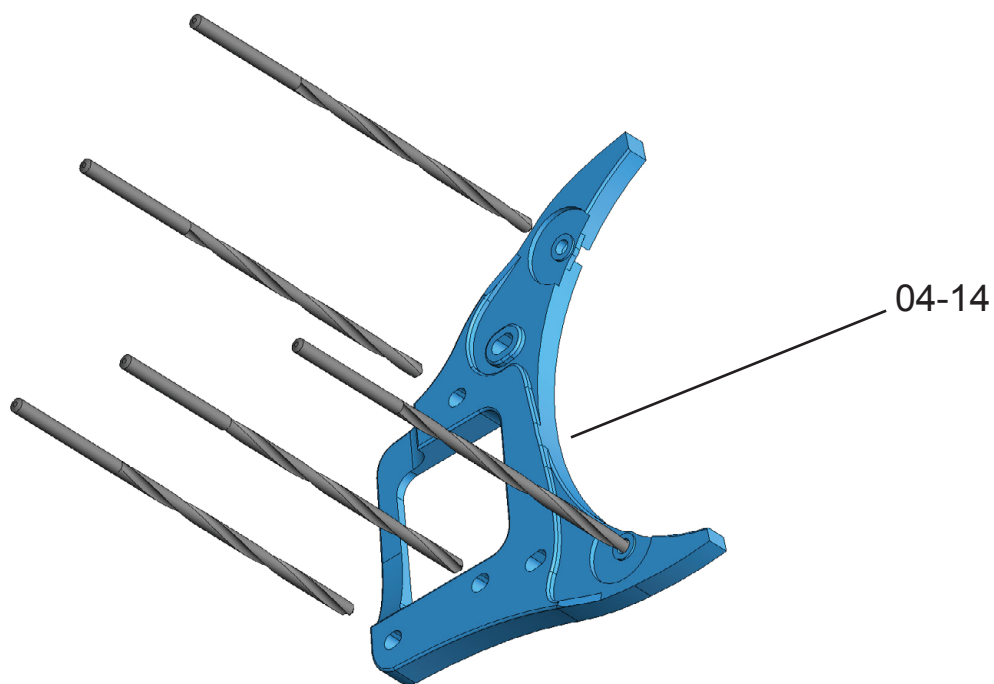
Assembly 04 (front cover)

N20 motor



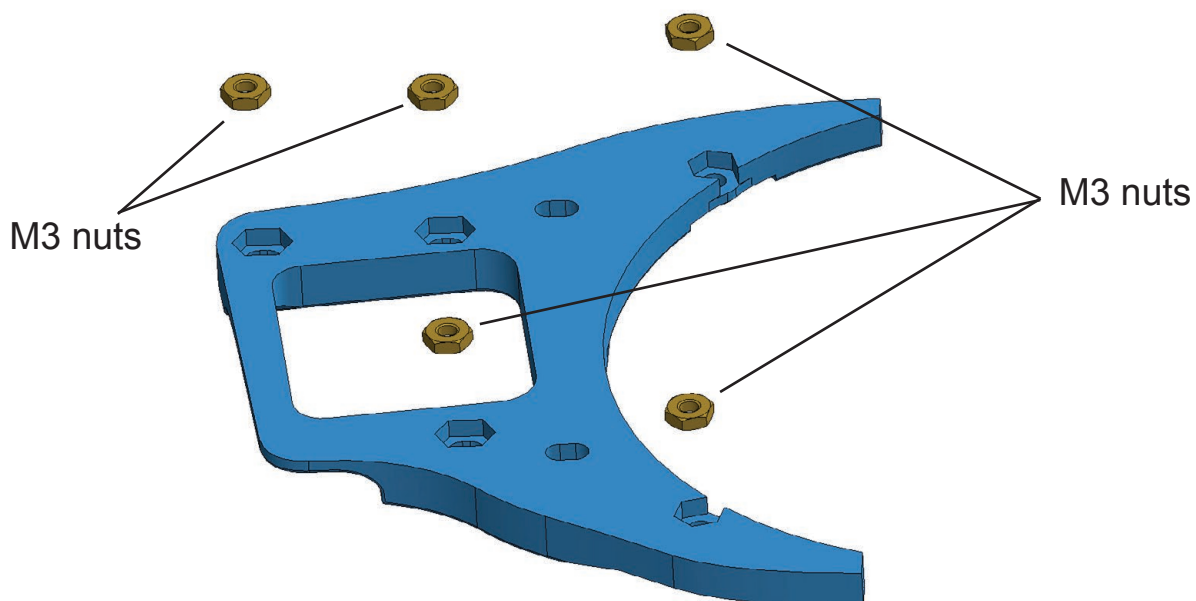
Assembly 04 (front cover)

step 9 - N20 motor



Drill the holes in part 04-14. Use a 3-3.5mm diameter drill bit.

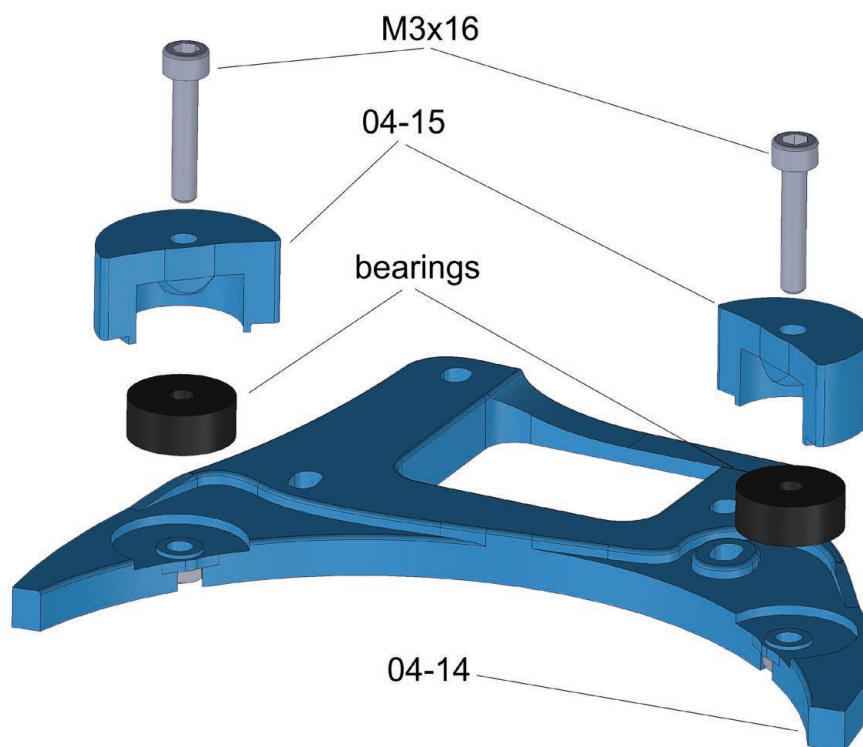
step 10 - N20 motor



Insert the 4 nuts M3 into the part 04-14.

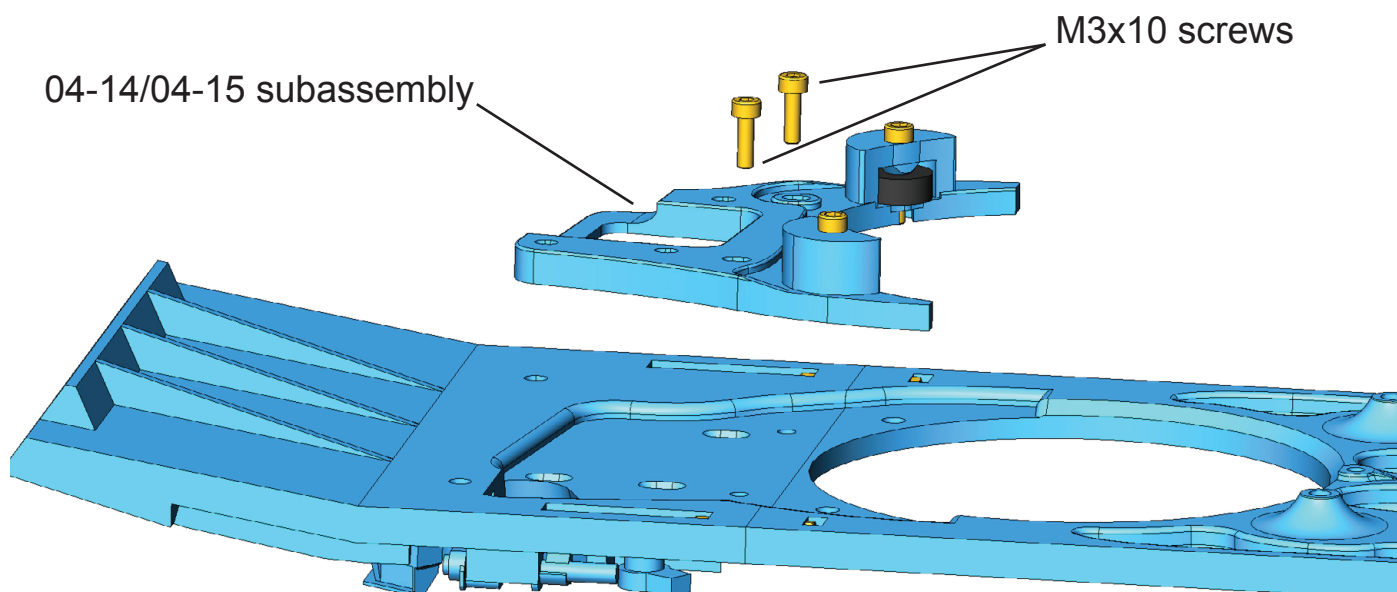
Assembly 04 (front cover)

step 11 - N20 motor



Attach the 633zz bearings to part 04-14 using parts 04-15 and M3x16mm screws.

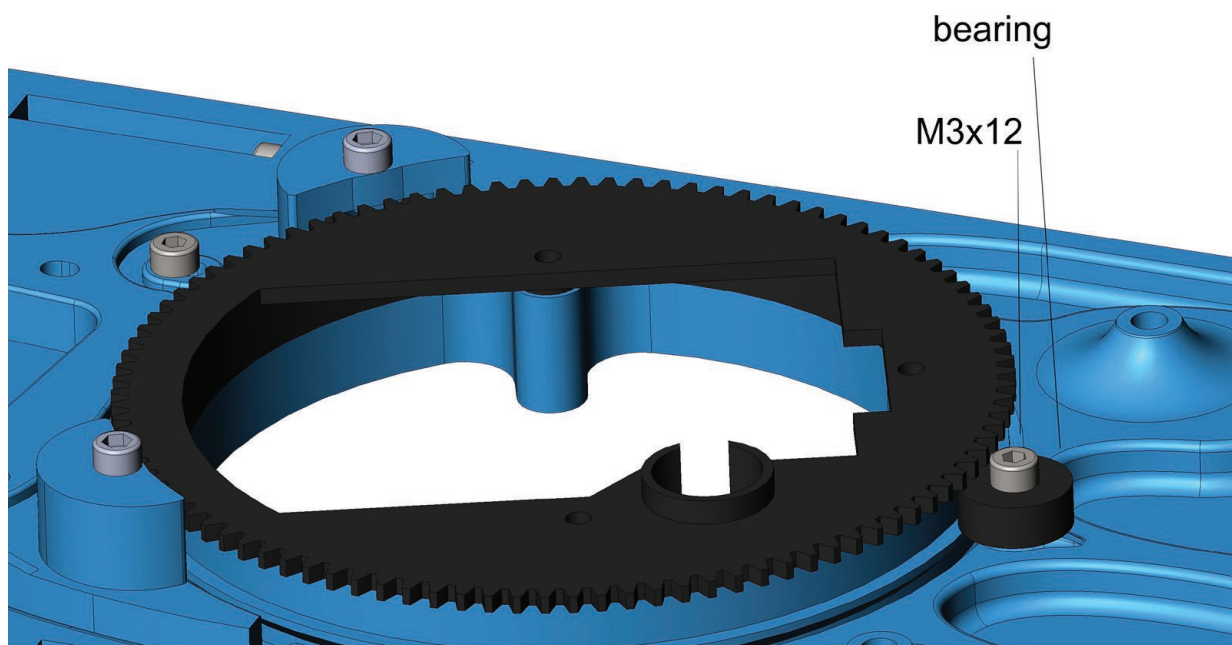
step 12 - N20 motor



Attach assembly 04-14/04-15 to assembly 04.
Use two M3x10mm screws and leave it loose for now.

Assembly 04 (front cover)

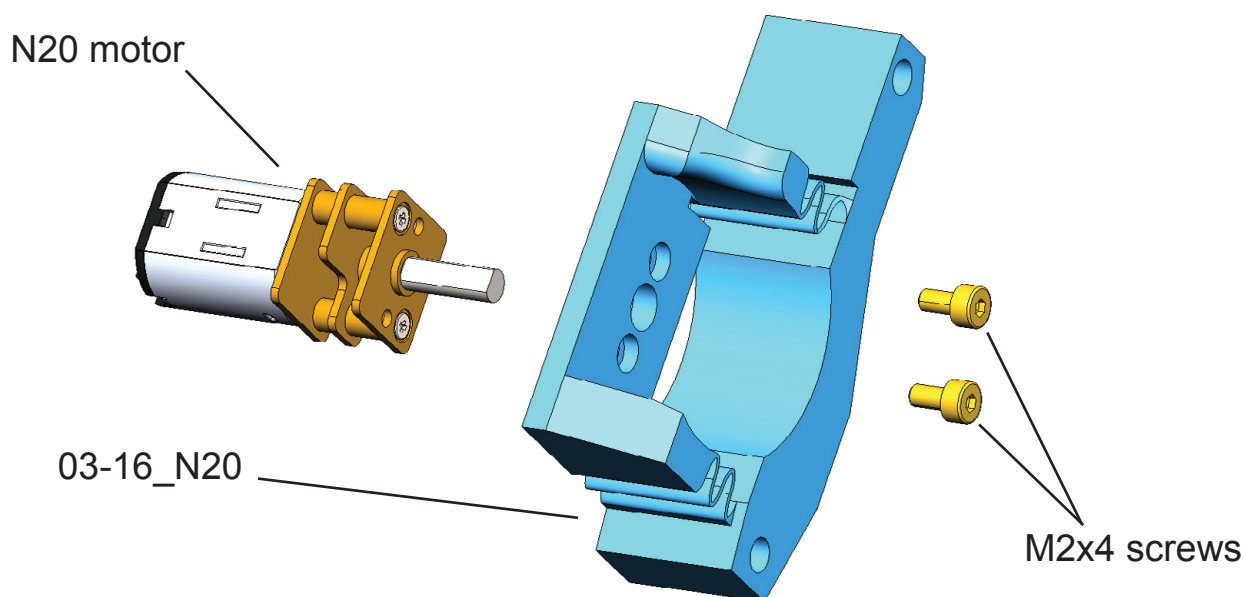
step 13 - N20 motor



Insert the assembly of part 04-13 (see step 8) into assembly 04 and secure with bearing 633zz using an M3x12mm screw.

Adjust the appropriate clearance between the bearings and part 04-13.

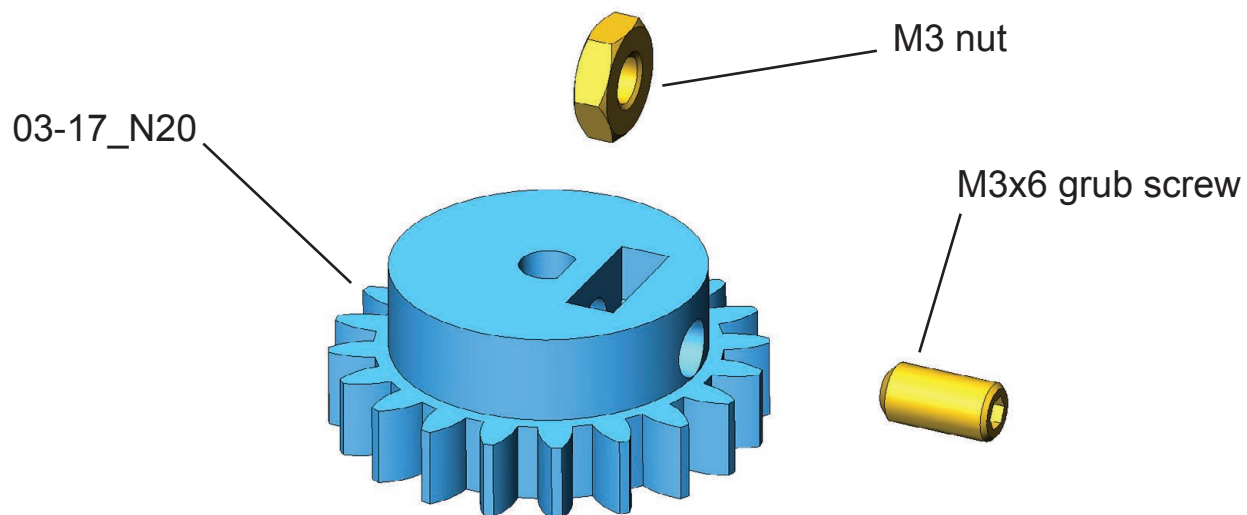
step 14 - N20 motor



Attach a N20 motor or other compatible motor to part 03-16_N20.
Use two M2x4 screws.

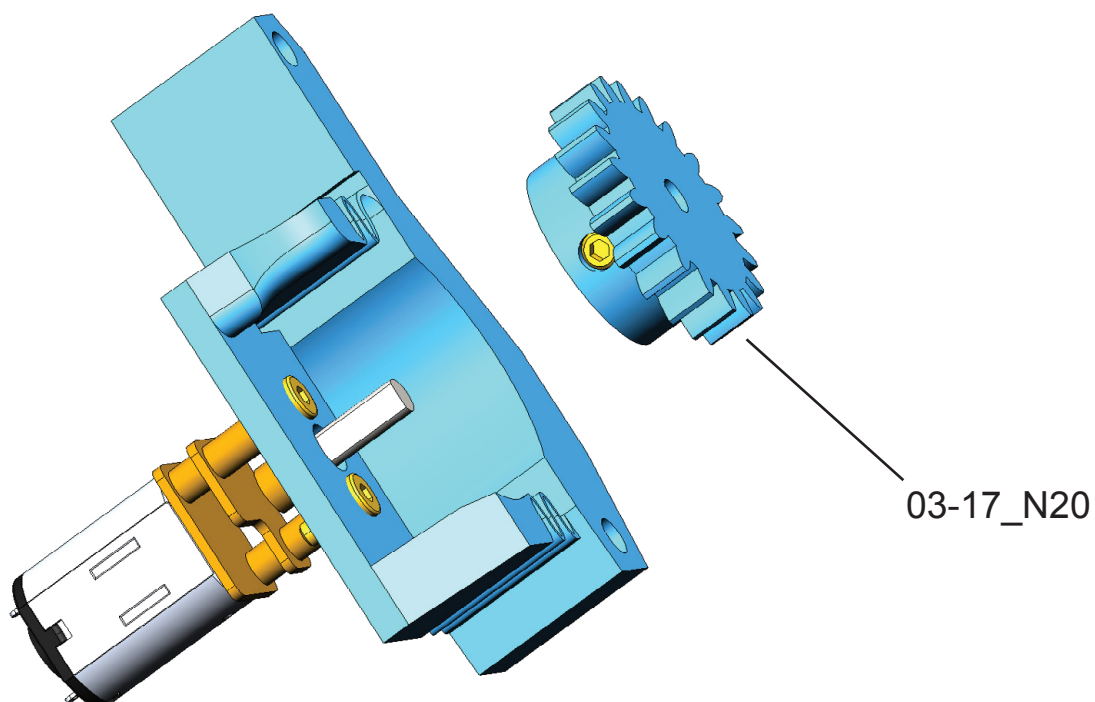
Assembly 04 (front cover)

step 15 - N20 motor



Insert the M3 nut into the 03-17_N20 part. Add the M3x6 grub screw.

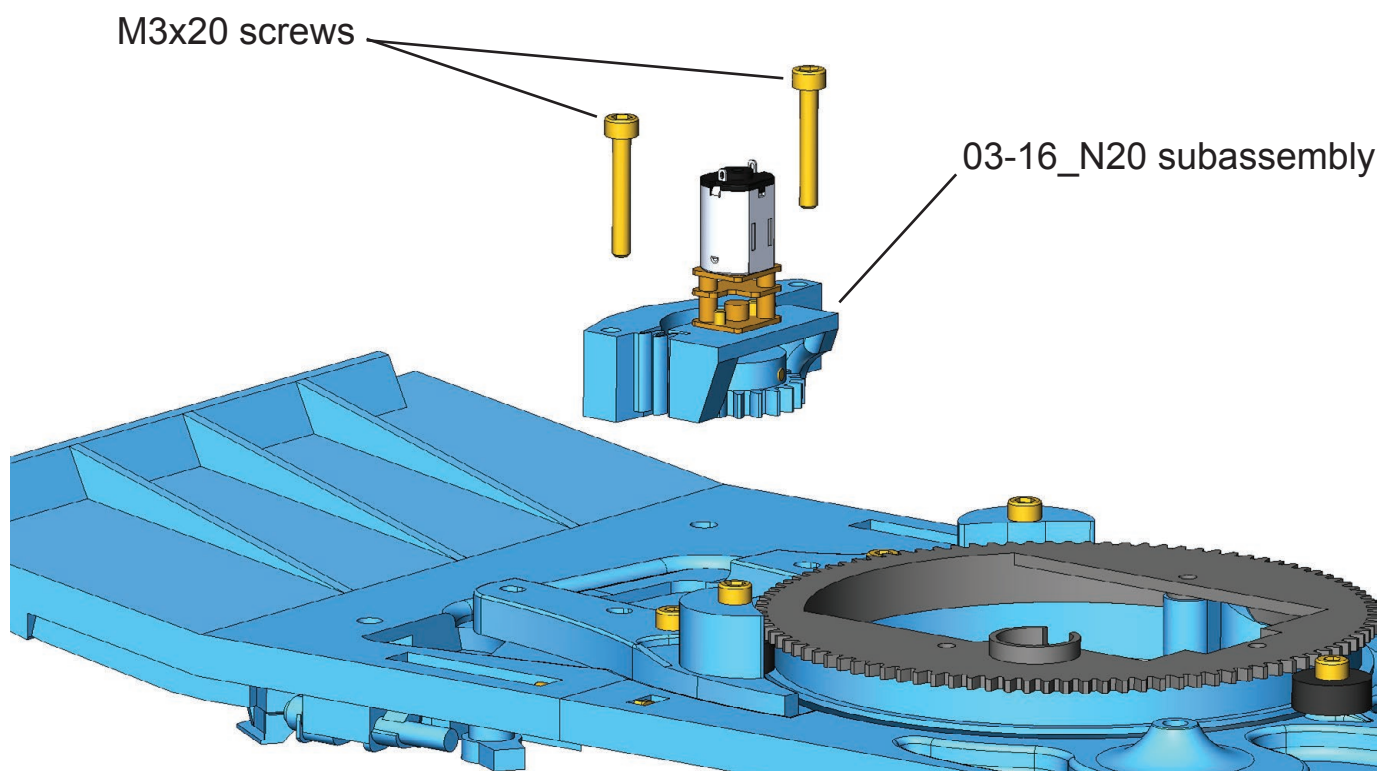
step 16 - N20 motor



Attach the 03-17_N20 gear to the motor shaft. Secure with a grub screw.

Assembly 04 (front cover)

step 17 - N20 motor



Install the motor using two M3x20 screws and adjust the correct clearance between the gears.

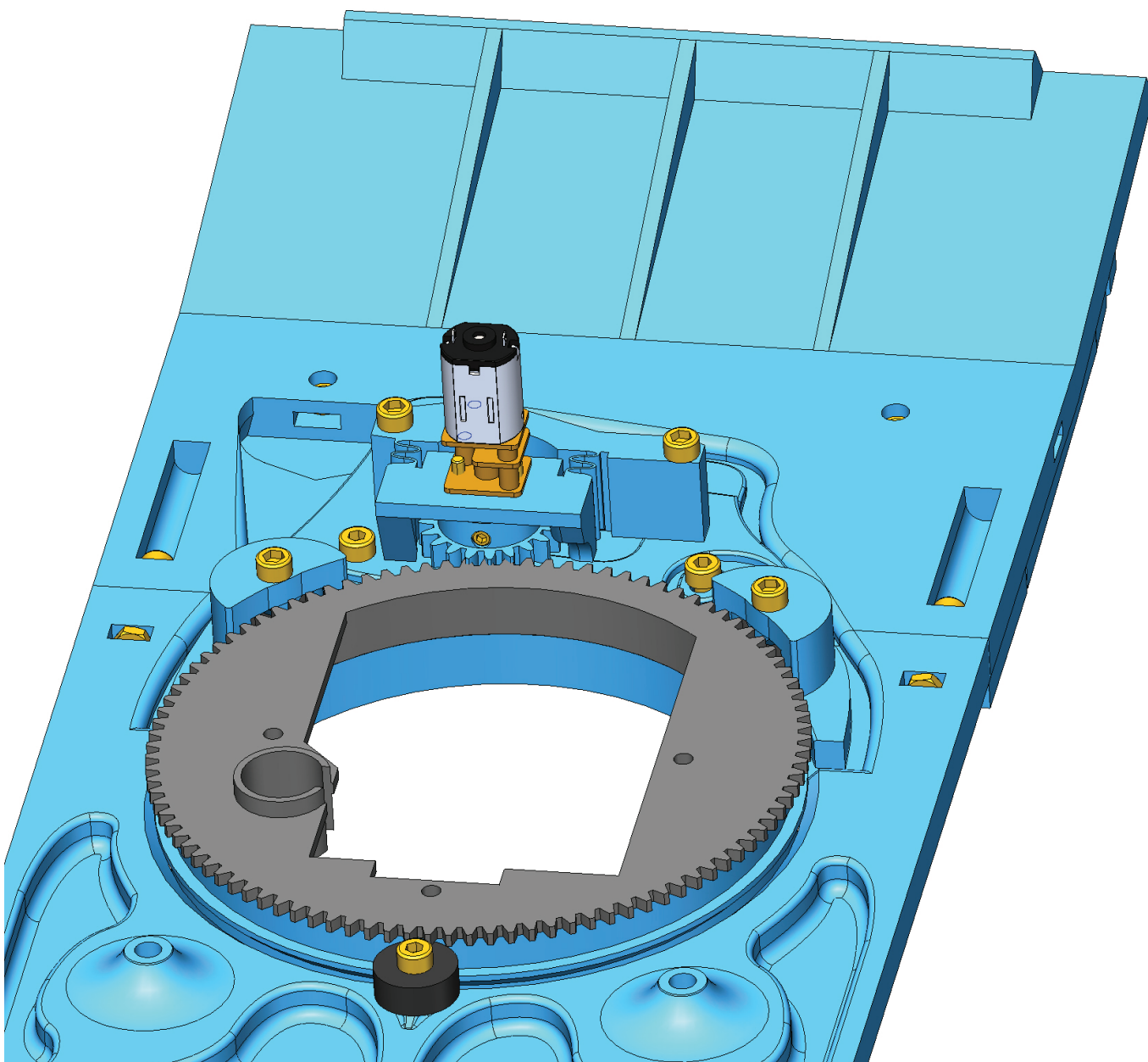
After adjustment, tighten the screws. The motor just needs to be fixed with two screws.

Check all clearances in the turret rotation mechanism.

In case of large or small clearance, loosen the M3x10 screws and adjust the correct position of the 04-14 part or turret rotation motor.

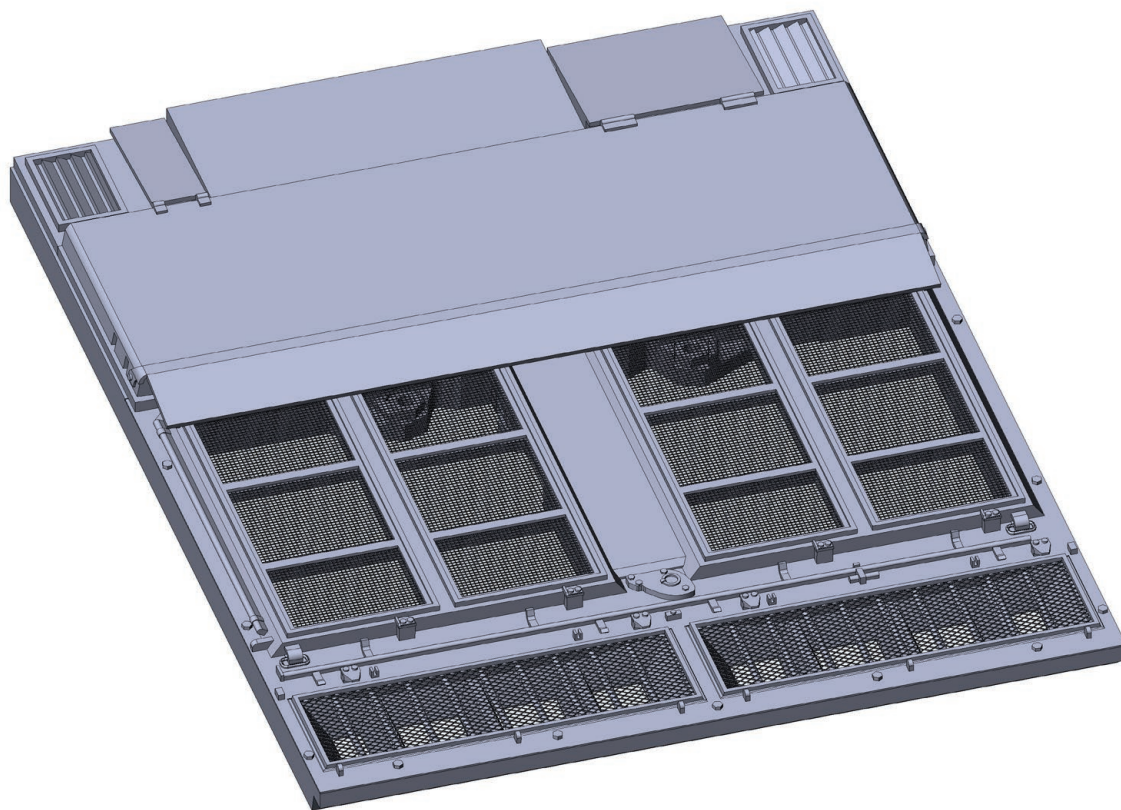
Assembly 04 (front cover)

step 17 detail - N20 motor



Auxiliary view for motor installation.

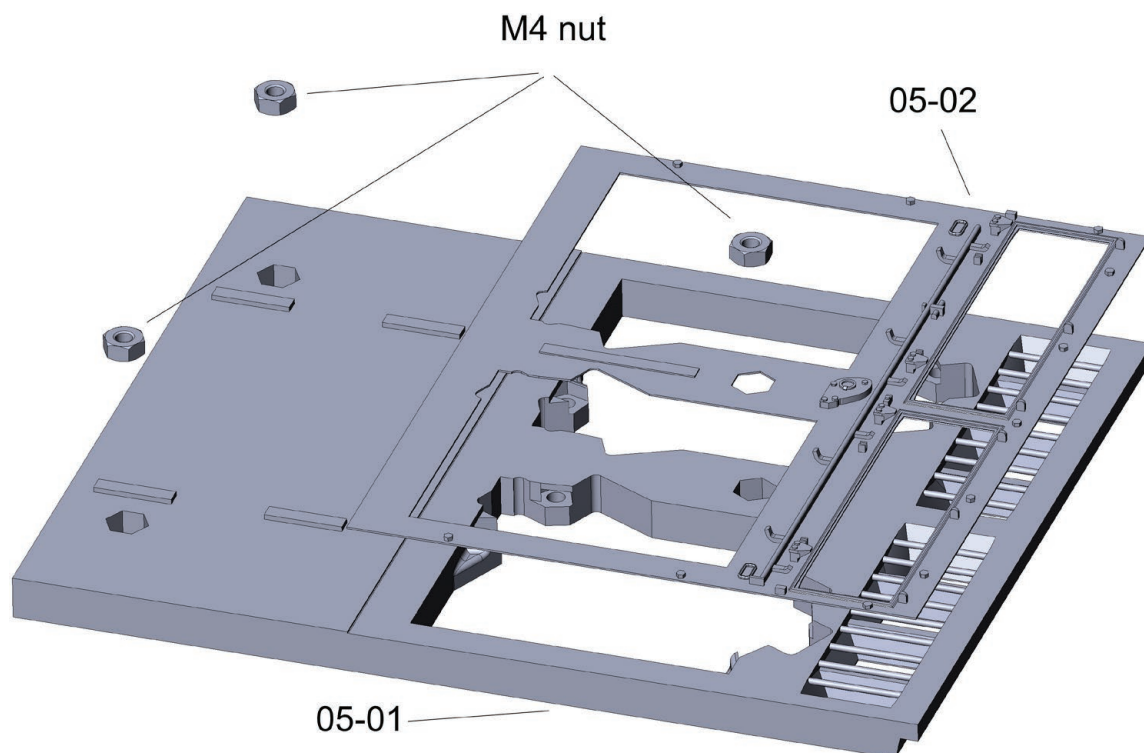
Assembly 05 (rear cover)



AMOUNT:	1
PRINTED PARTS:	05-01 (1x), 05-02 (1x), 05-03 (1x), 05-04 (4x), 05-05 (2x), 05-06 (1x), 05-07 (1x), 05-08 (1x), 05-09 (1x).
OPTIONAL PRINTED PARTS:	05-01_alt (1x), 05-01_NO_BASE (1x), 05-01_alt_NO_BASE (1x), 05-02_alt (1x), 05-03_alt (1x), 05-07_NO_BASE (1x).
NON-PRINTED PARTS:	M4 NUTS (3x), 0,7x0,7mm mesh, 1,8x1,2mm mesh.
OPTIONAL NON-PRINTED PARTS:	MATO® MF3010 STEREO SPEAKERS (1x), M3x8 screw (8x), M3 NUTS (8x).

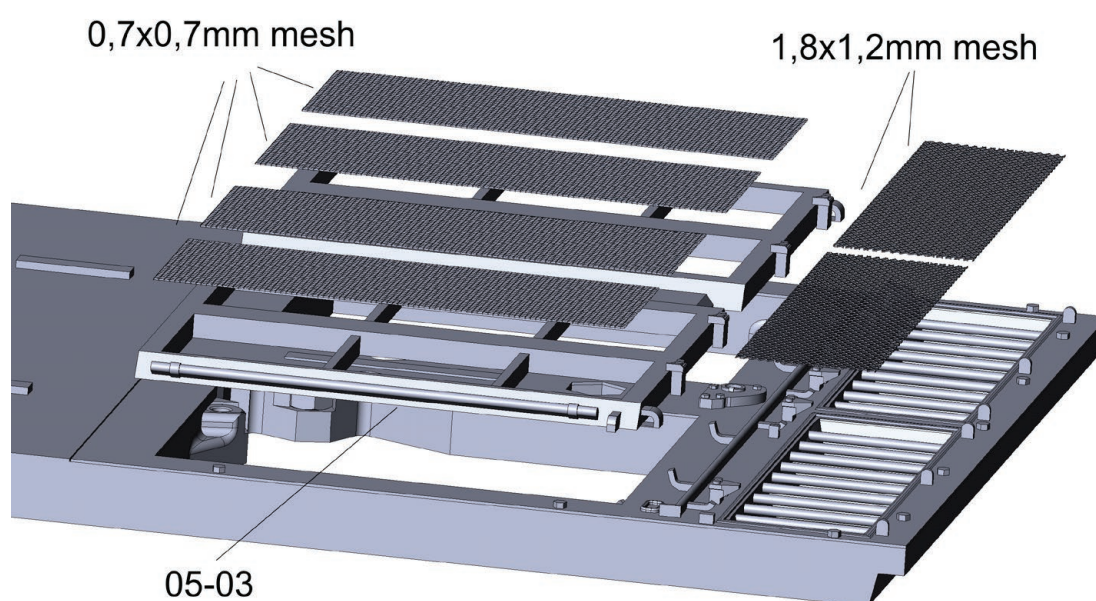
Assembly 05 (rear cover)

step 1



Glue parts 05-01 and 05-02 together. Insert the three M4 nuts.

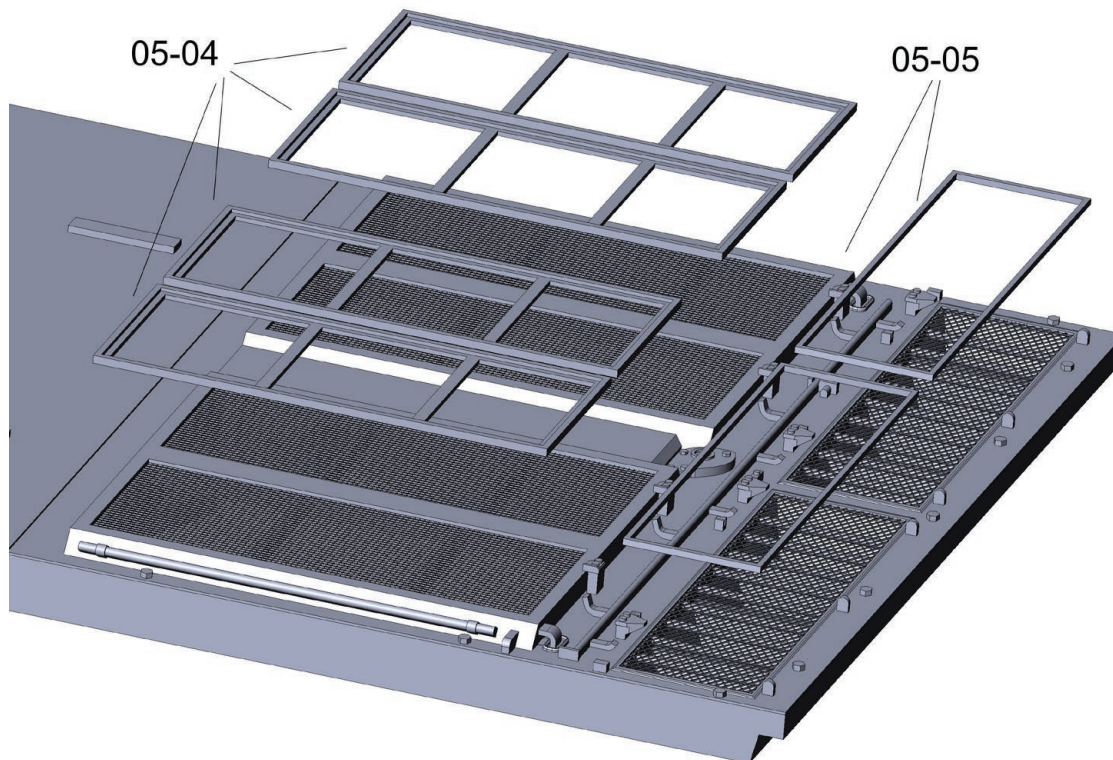
step 2



Glue on part 05-03. Then glue on the nets.

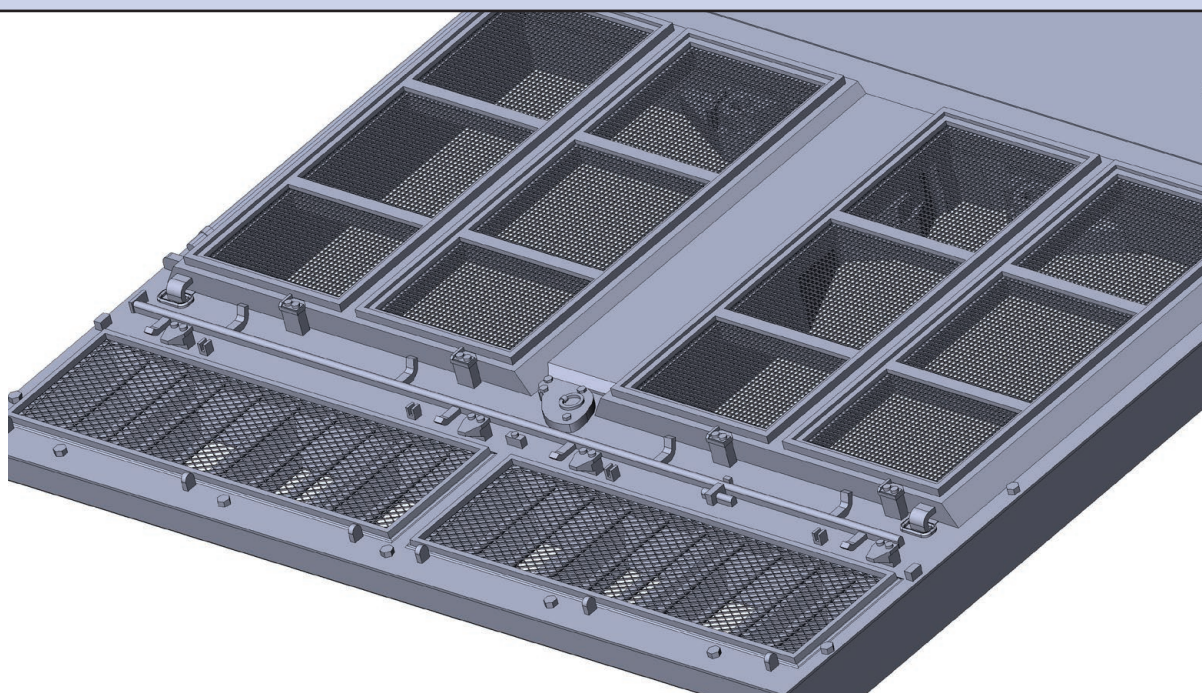
Assembly 05 (rear cover)

step 3



Fix the nets with parts 05-04 and 05-05.

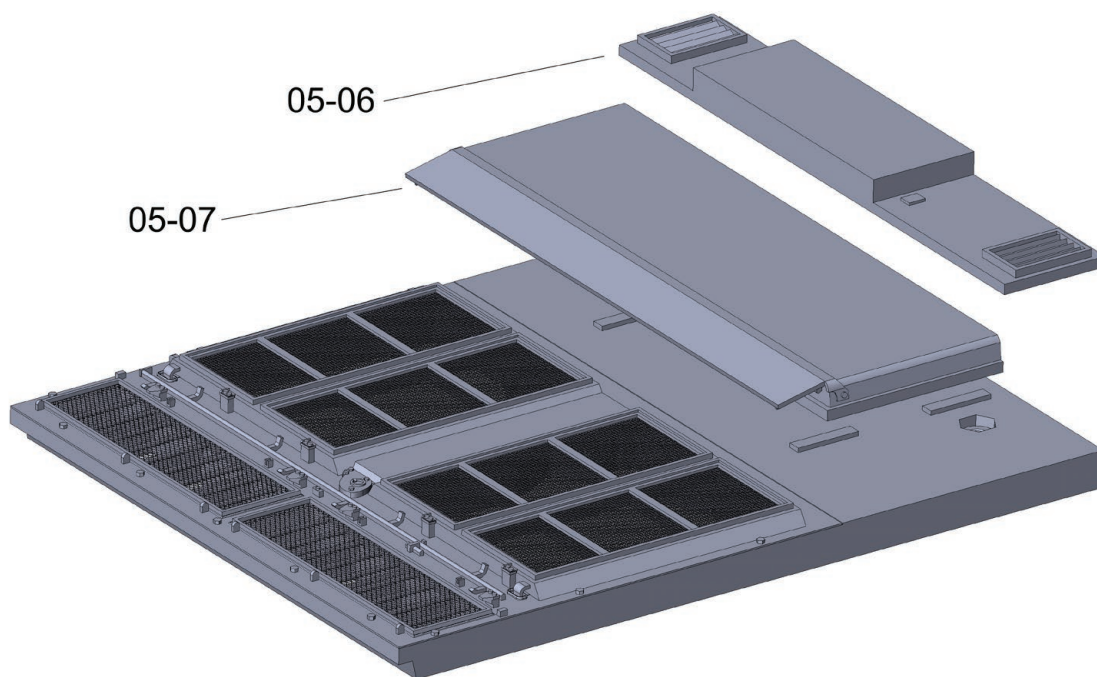
step 3 detail



Detail of glued nets.

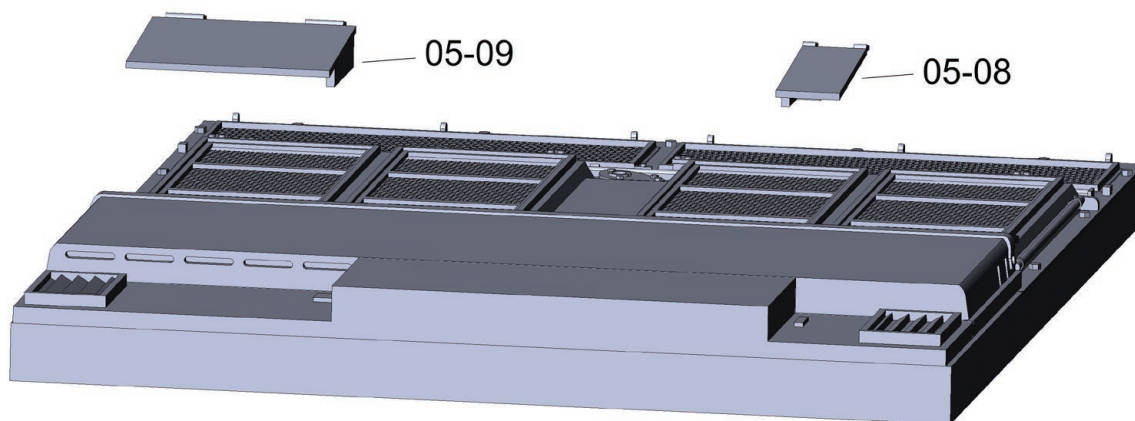
Assembly 05 (rear cover)

step 4



Glue parts 05-06 and 05-07.

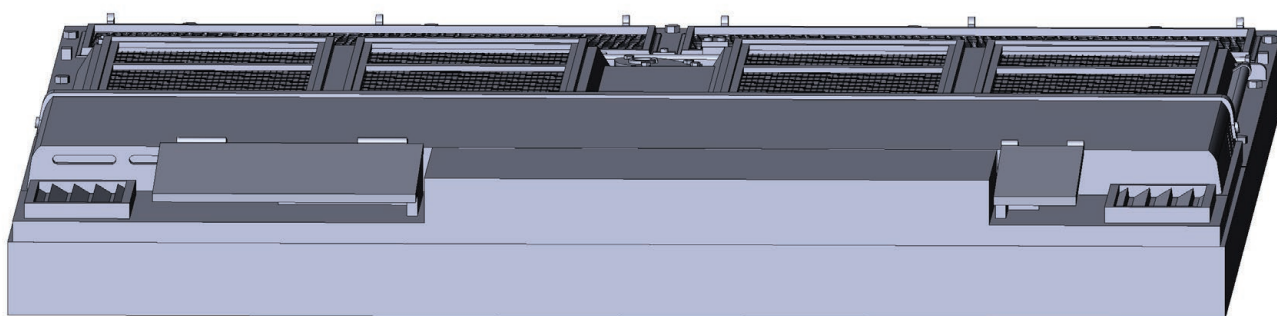
step 5



Glue parts 05-08 and 05-09.

Assembly 05 (rear cover)

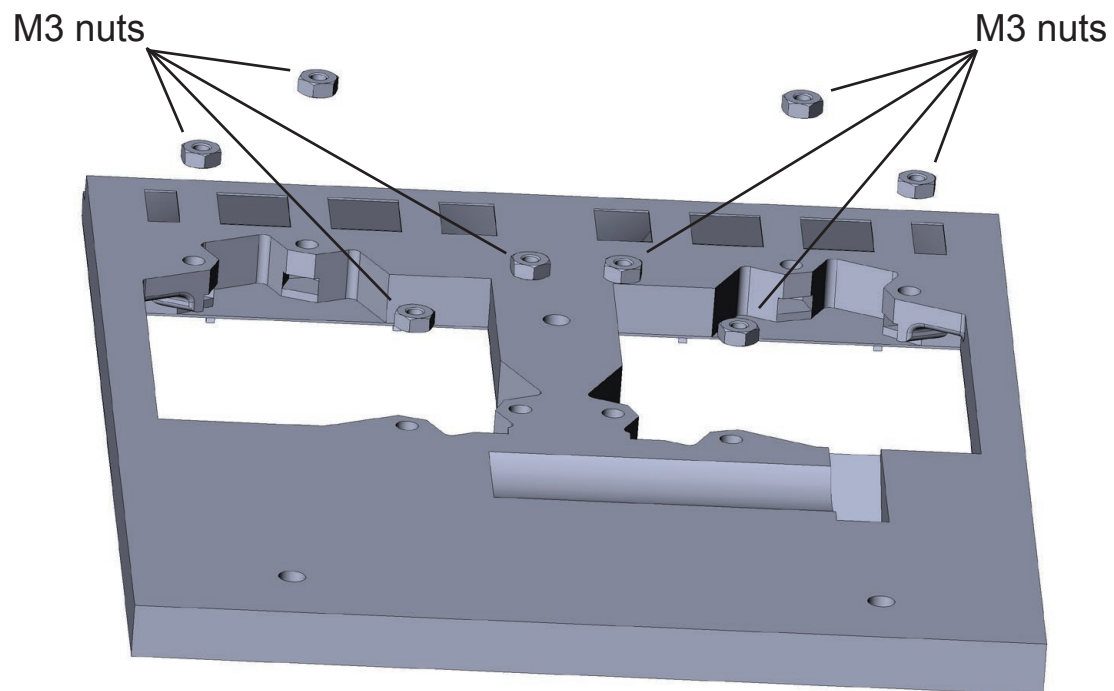
step 5 detail



Correct position of parts 05-08 and 05-09

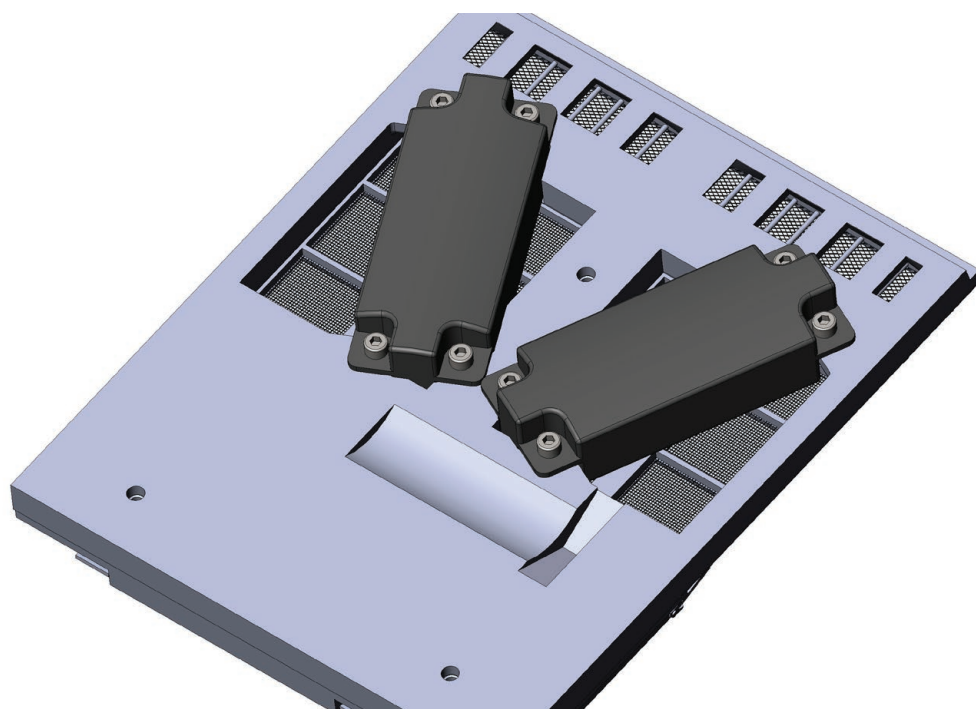
Assembly 05 (rear cover)

step 6 (optional)



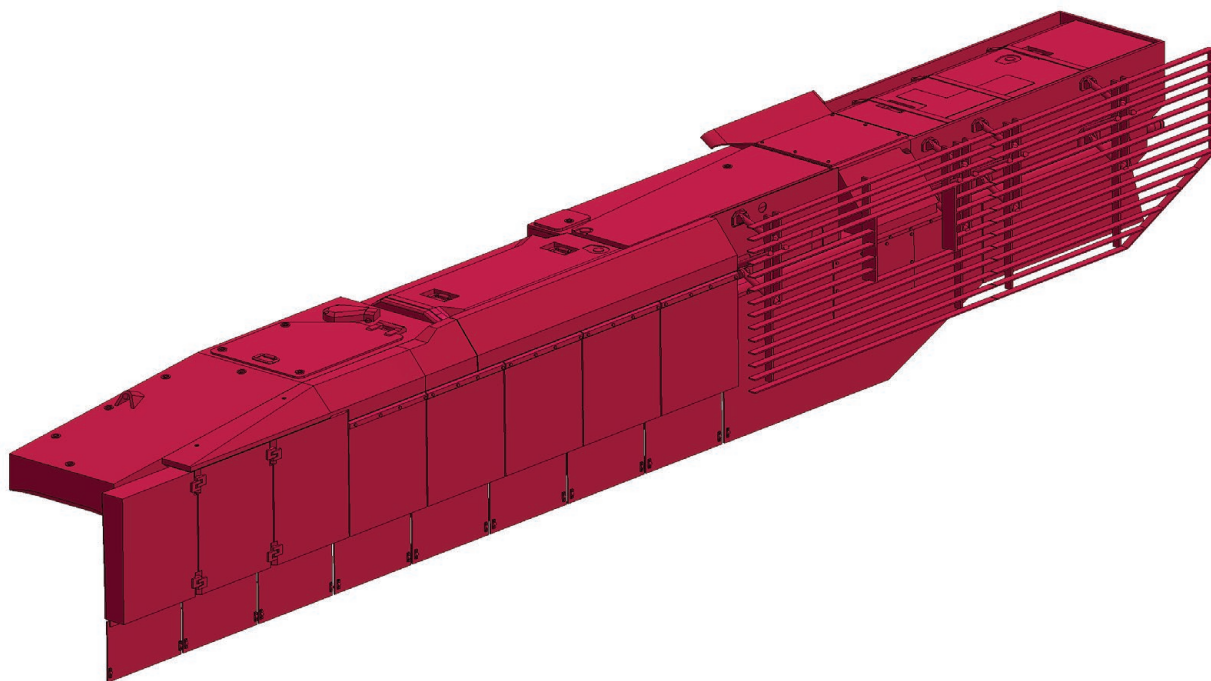
Insert 8 M3 nuts into part 05-01

step 7 (optional)



Install the MATO® MF 3010 speakers. Use 8 M3x8mm screws.

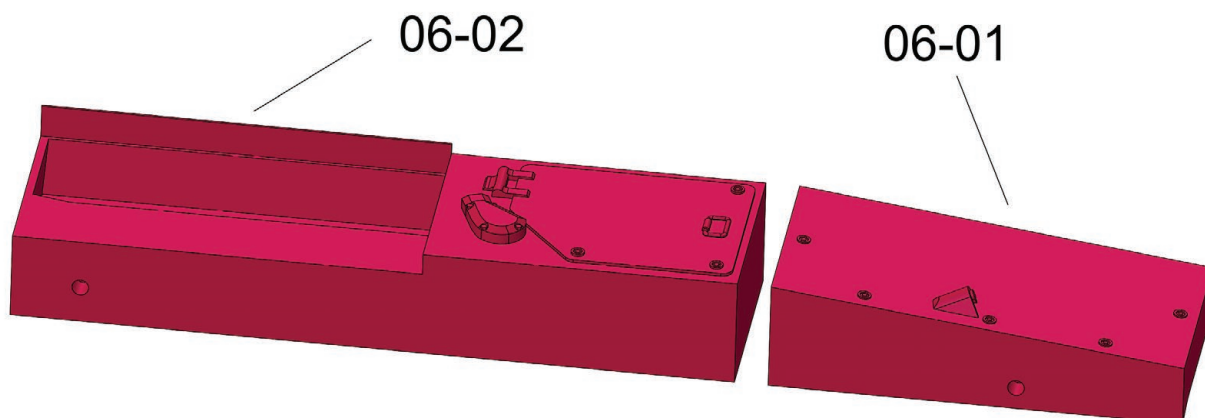
Assembly 06 (left fender)



AMOUNT:	1
PRINTED PARTS:	06-01 (1x), 06-02 (1x), 06-03 (1x), 06-04 (1x), 06-05 (1x), 06-06 (1x), 06-07 (1x), 06-08 (1x), 06-09 (1x), 06-10 (1x), 06-11 (1x), 06-12 (1x), 06-13 (1x), 06-14 (1x), 06-15 (1x), 06-16 (5x), 06-17 (3x), 06-18 (1x), 06-19 (1x), 06-20 (1x), 06-21 (1x), 06-22 (1x).
OPTIONAL PRINTED PARTS:	06-01_NO_BASE (1x), 06-02_NO_BASE (1x), 06-03_NO_BASE (1x), 06-04_NO_BASE (1x), 06-05_SLA (1x), 06-06_SLA (1x), 06-08_NO_BASE (1x), 06-09_NO_BASE (1x), 06-10_SLA (1x), 06-14_NO_BASE (1x), 06-15_NO_BASE (1x), 06-22_alt (1x), 06-23_alt (1x).
NON-PRINTED PARTS:	M3 NUTS (3x)
OPTIONAL NON-PRINTED PARTS:	

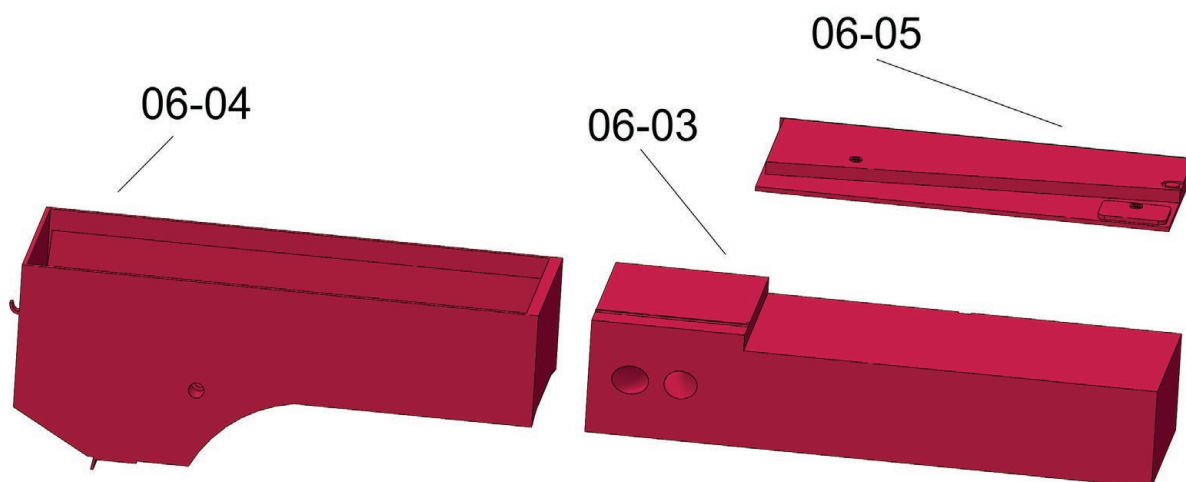
Assembly 06 (left fender)

step 1



Glue parts 06-01 and 06-02 together.
Make sure to align the bottom surface of the parts.

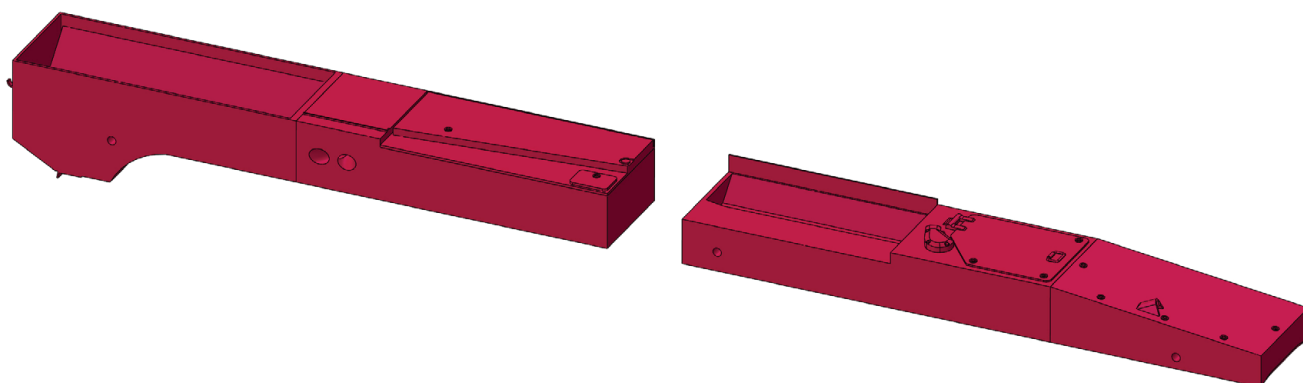
step 2



Glue parts 06-03 and 06-04 together.
Make sure to align the bottom surface of the parts. Then glue part 06-05.

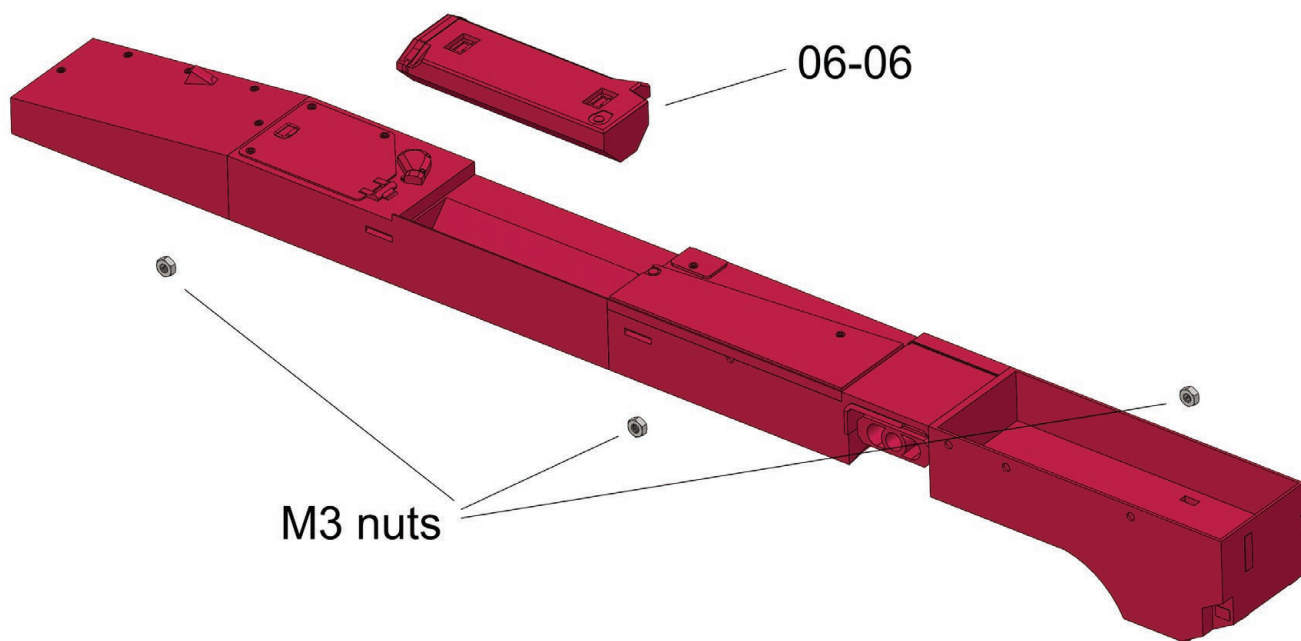
Assembly 06 (left fender)

step 3



Glue the two assemblies together. Make sure to align the bottom surface of the parts.

step 4

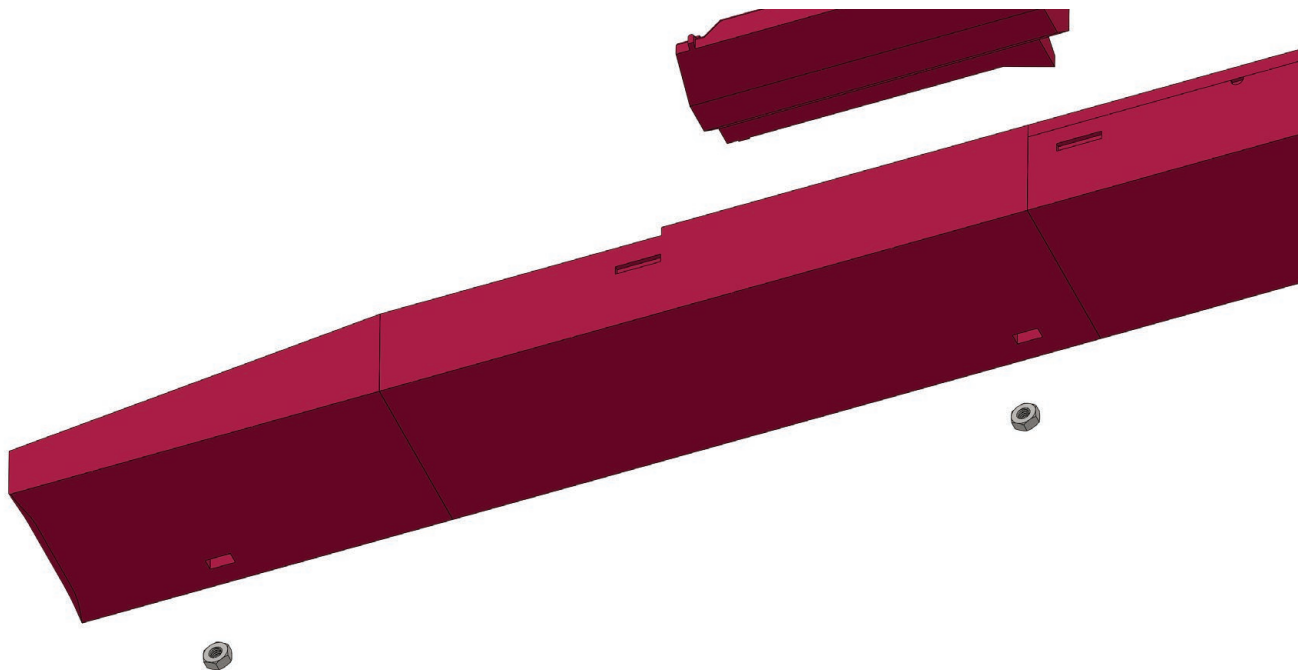


Glue part 06-06. Insert 3 nuts M3.

It is very important to do this now - after gluing the other parts, inserting one of them will be impossible.

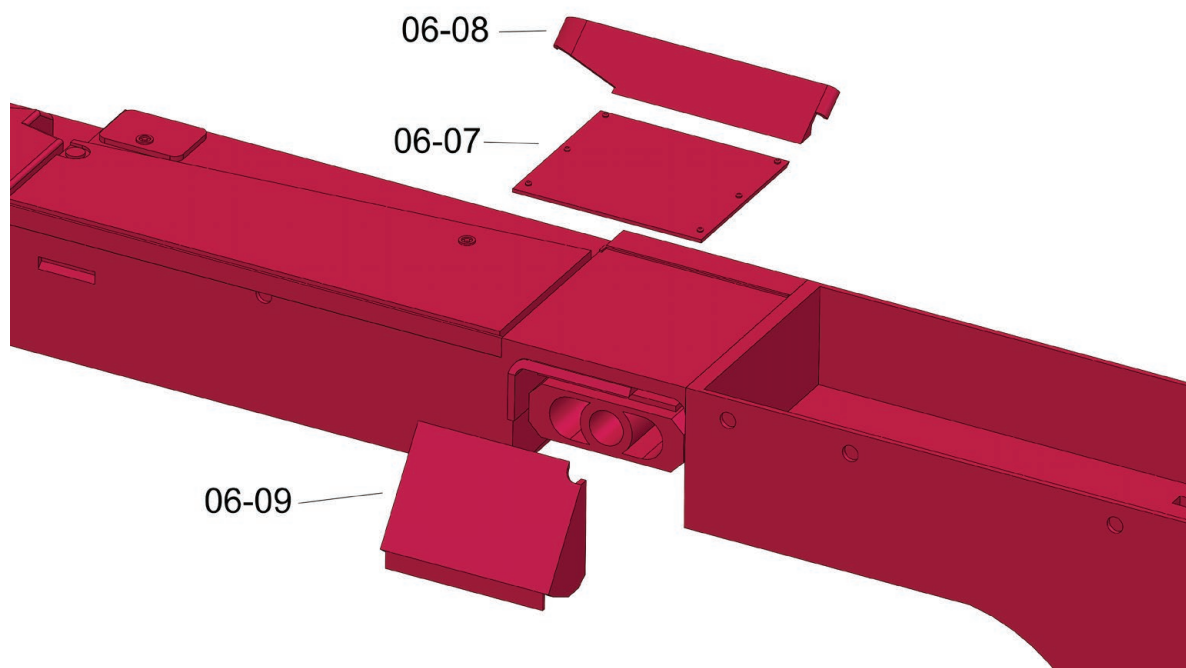
Assembly 06 (left fender)

step 4 detail



Bottom view of the M3 nut holes. Secure the nuts to prevent them from falling out. This will significantly impair the comfort when using the tank.

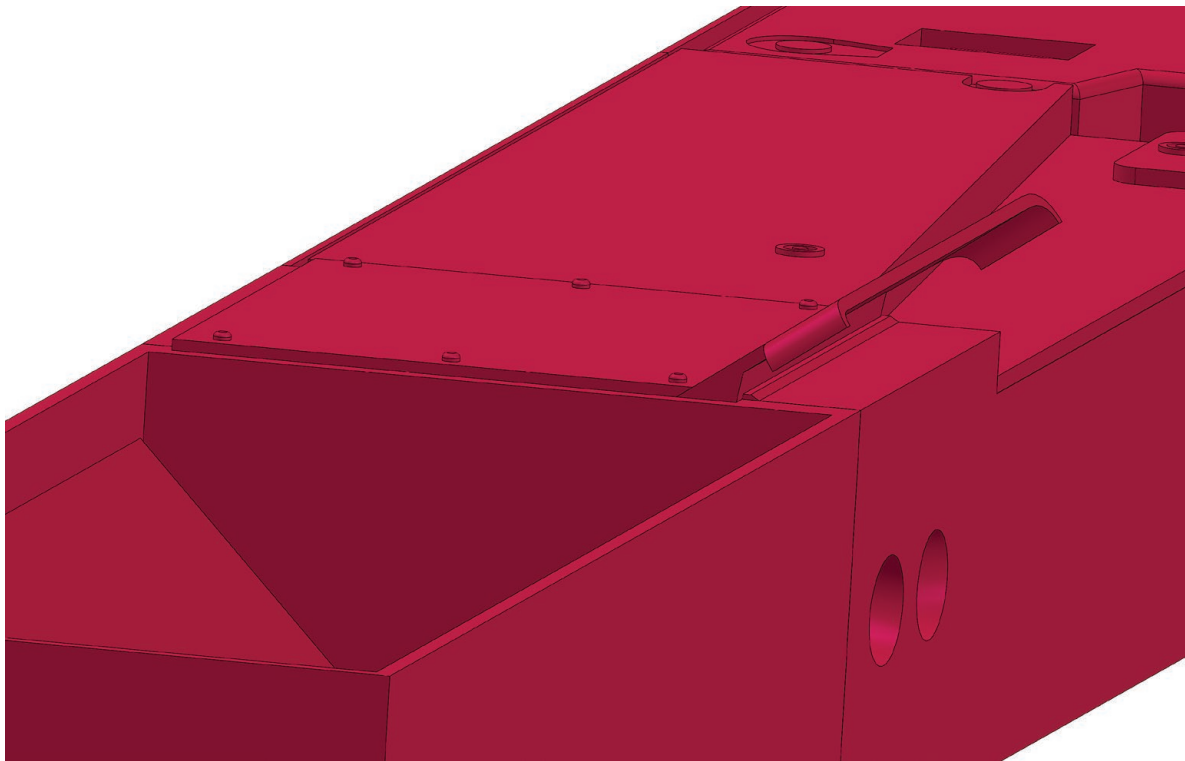
step 5



Glue parts 06-07, 06-08 and 06-09.
Make sure the parts are in the correct position before gluing.

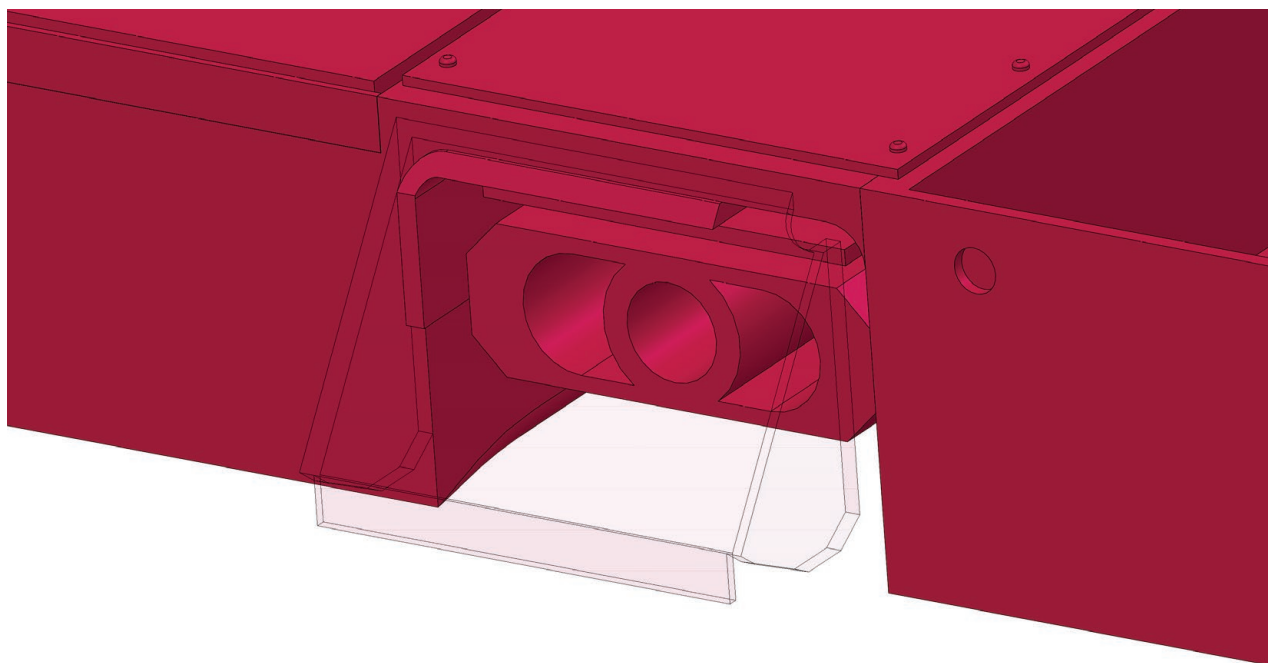
Assembly 06 (left fender)

step 5 detail



Correct position of parts 06-07 and 06-08.
Part 06-08 is located in front of the groove on part 06-03.

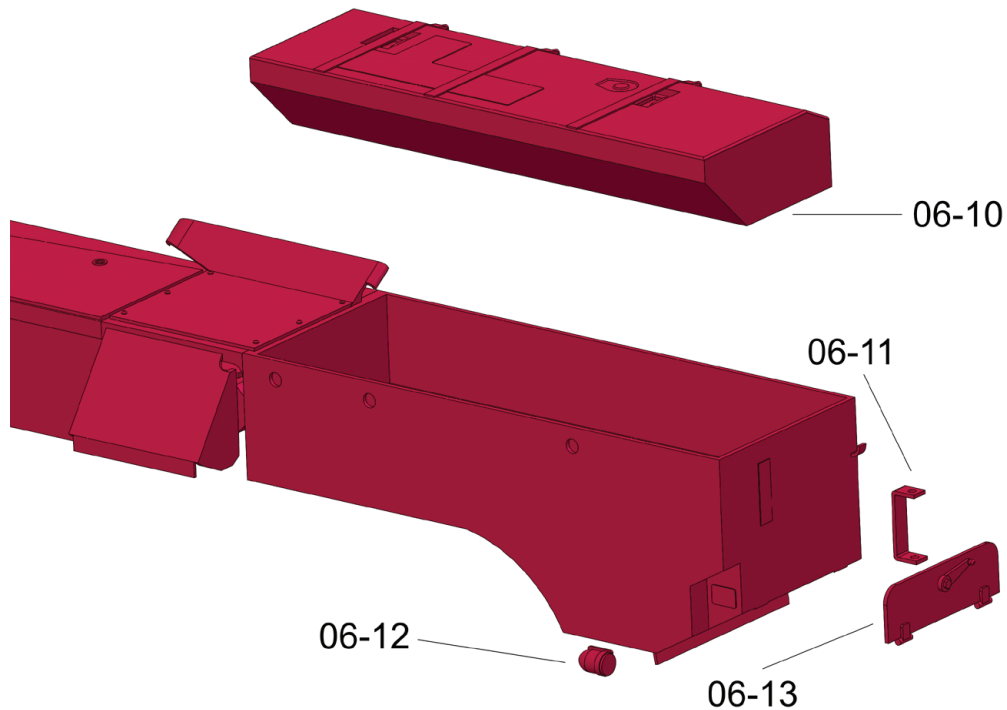
step 5 detail



Correct position of part 06-09.
Glued from the inside against the grooves on part 06-03.

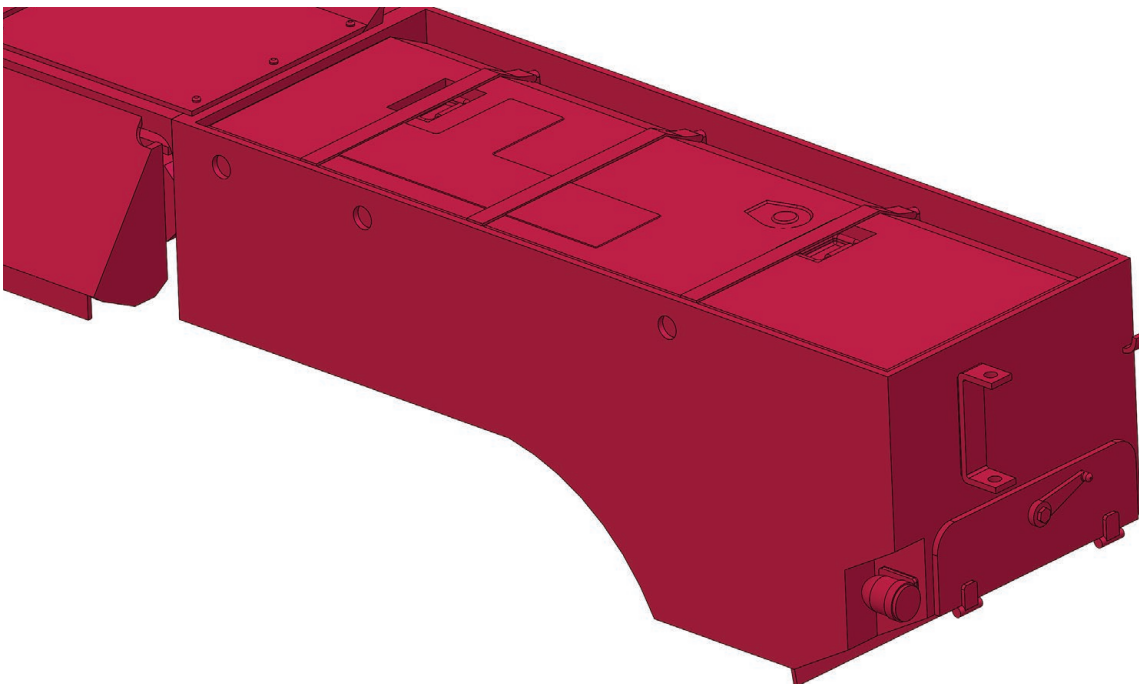
Assembly 06 (left fender)

step 6



Glue parts 06-10 to 06-13.

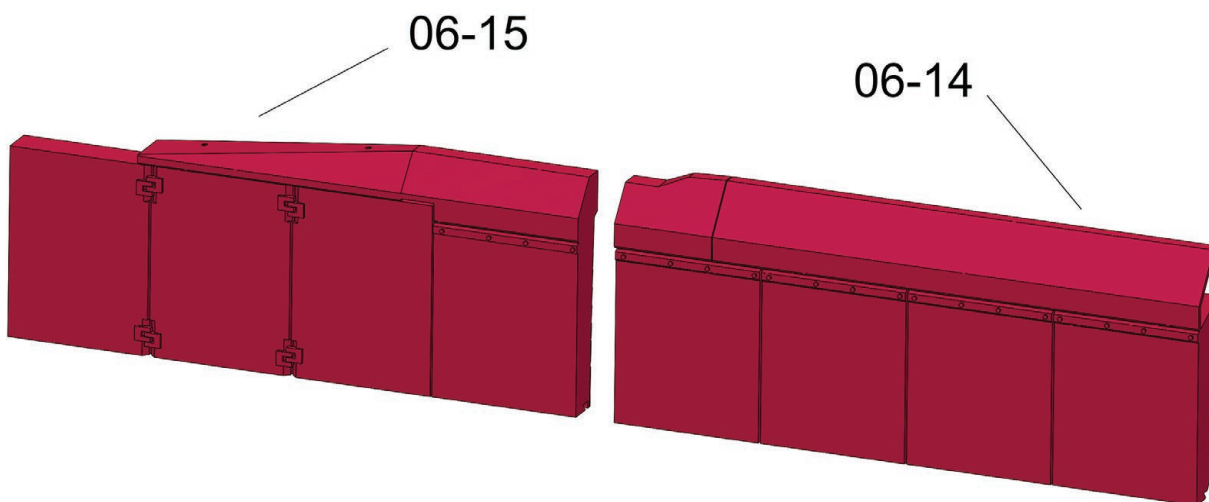
step 6 detail



Correct position of parts 06-10 to 06-13.

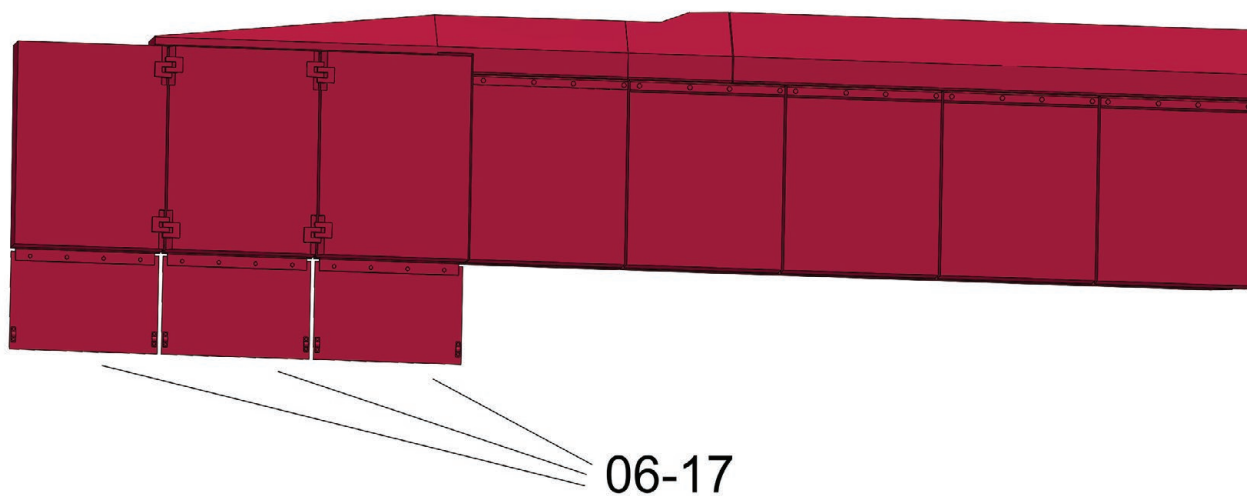
Assembly 06 (left fender)

step 7



Glue parts 06-14 and 06-15 together.

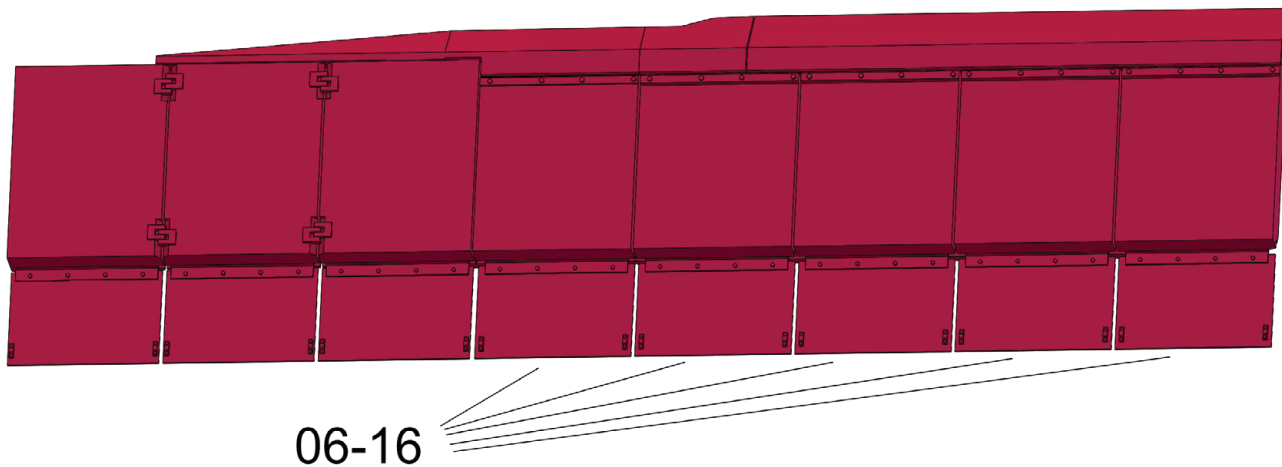
step 8



Slide the 3 parts 06-17 into the groove on the bottom of parts 06-14 and 06-15.

Assembly 06 (left fender)

step 9



Slide the 5 parts 06-16 into the groove on the bottom of parts 06-14 and 06-15.

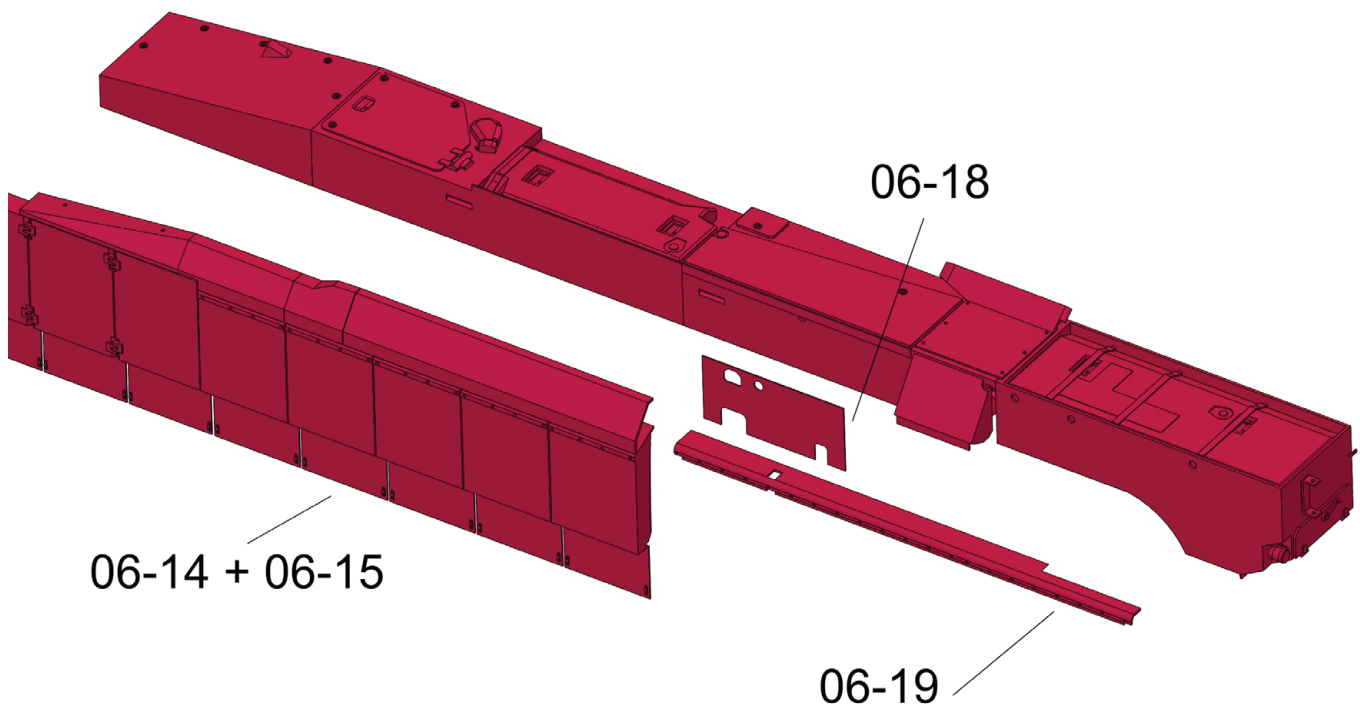
step 9 detail



Detail of the groove in part 06-14.

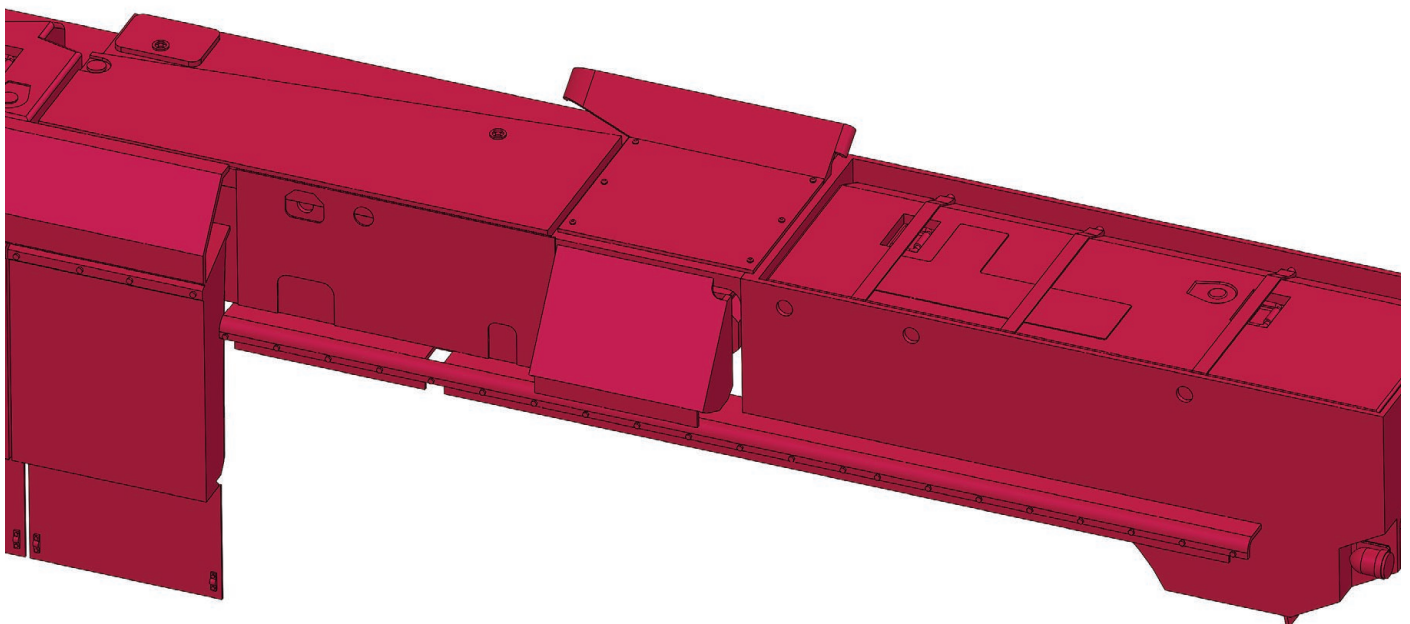
Assembly 06 (left fender)

step 10



Glue the prepared set of parts 06-14 + 06-15. Glue parts 06-18 and 06-19.

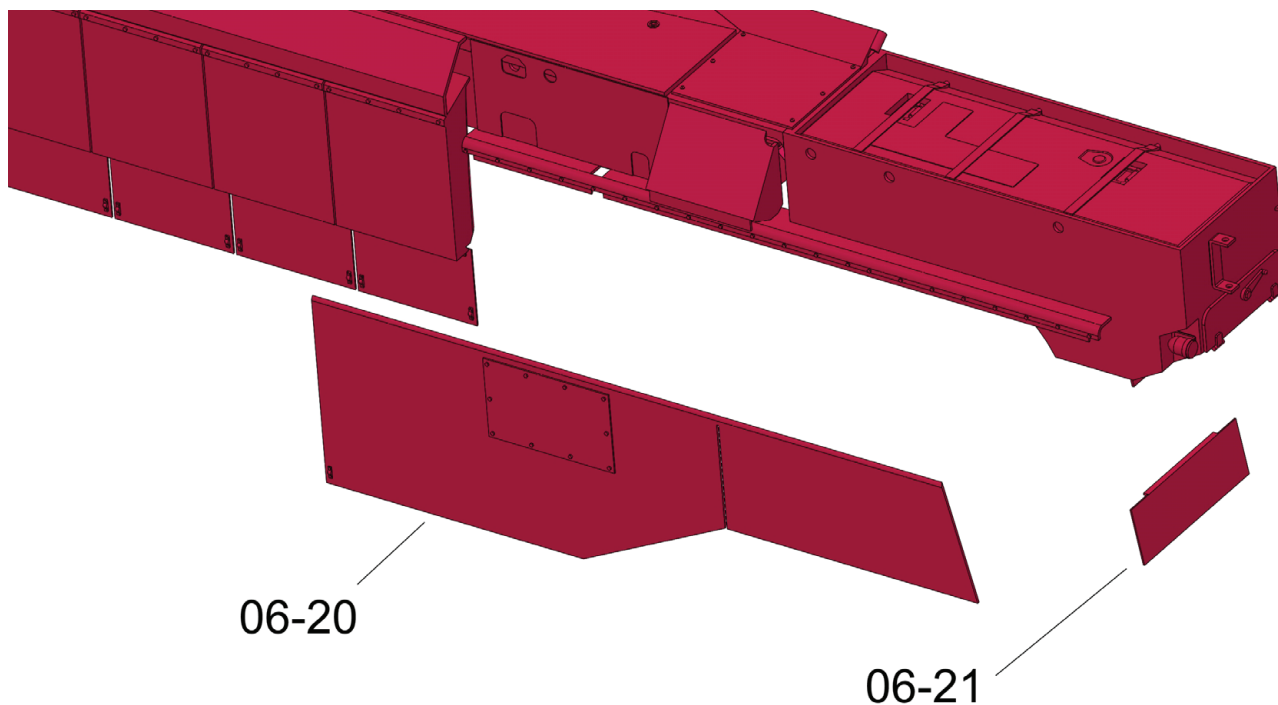
step 10 detail



Correct position of parts 06-18 and 06-19.

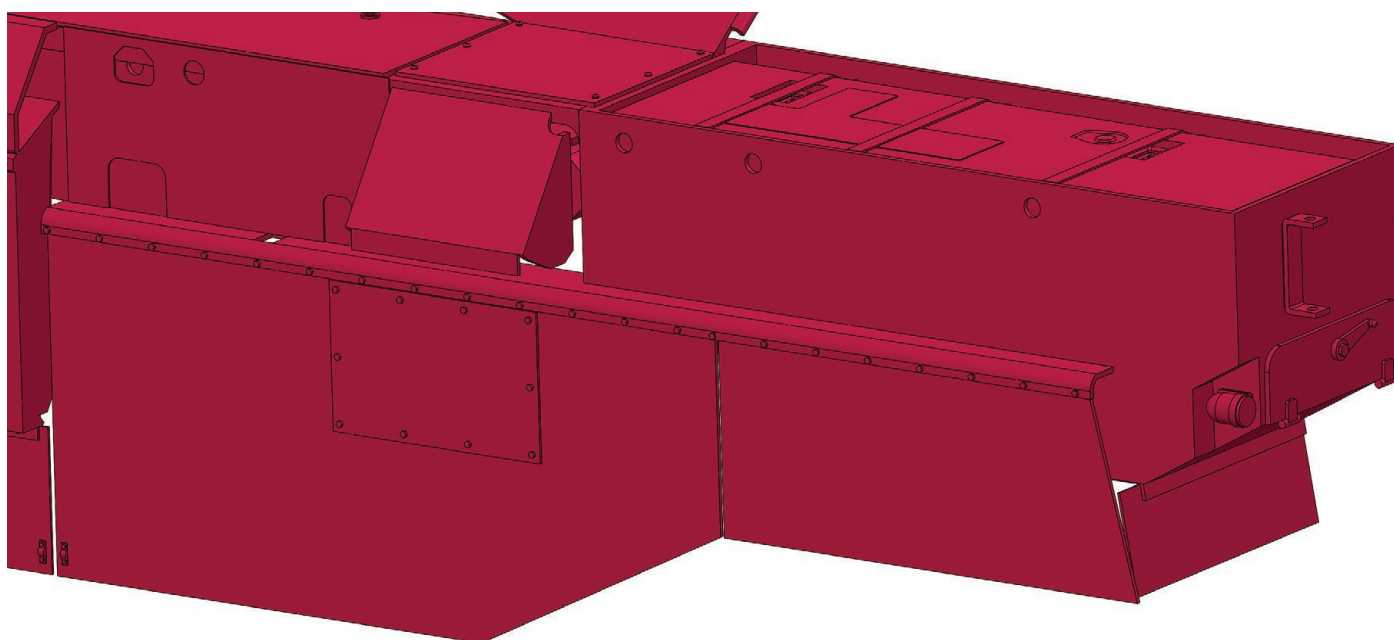
Assembly 06 (left fender)

step 11



Glue parts 06-20 and 06-21.

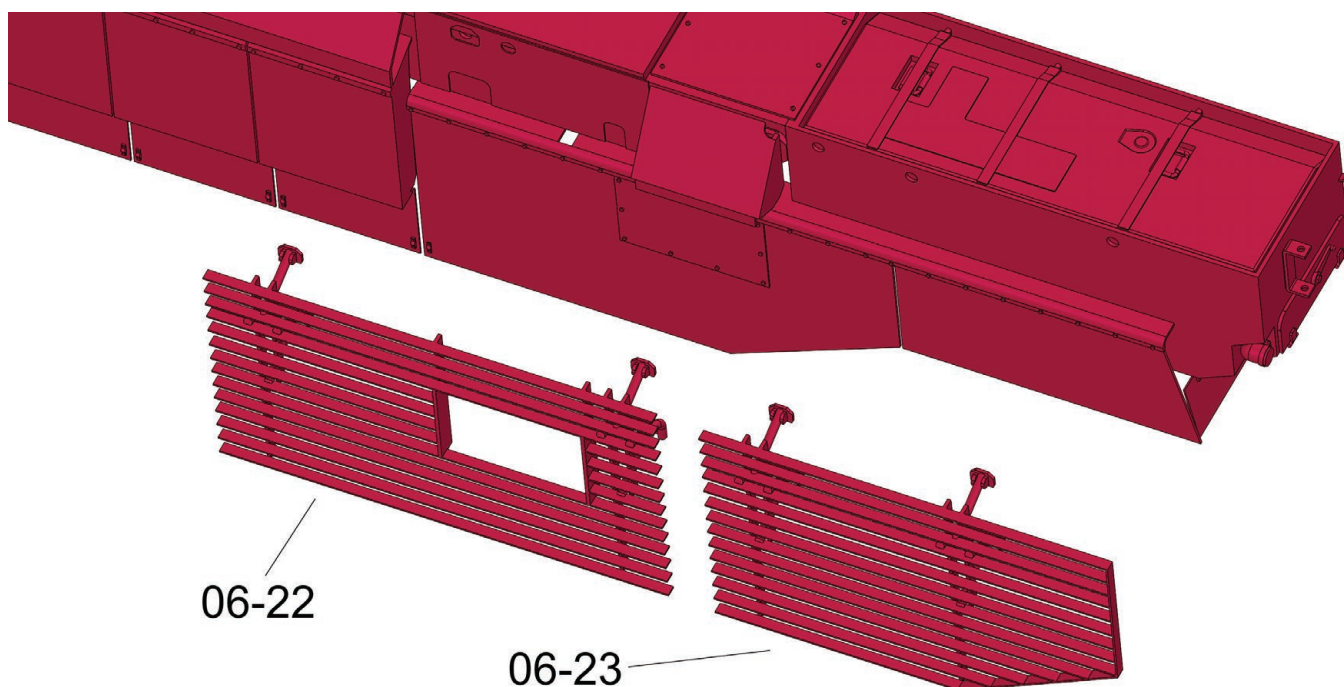
step 11 detail



Correct position of parts 06-20 and 06-21.

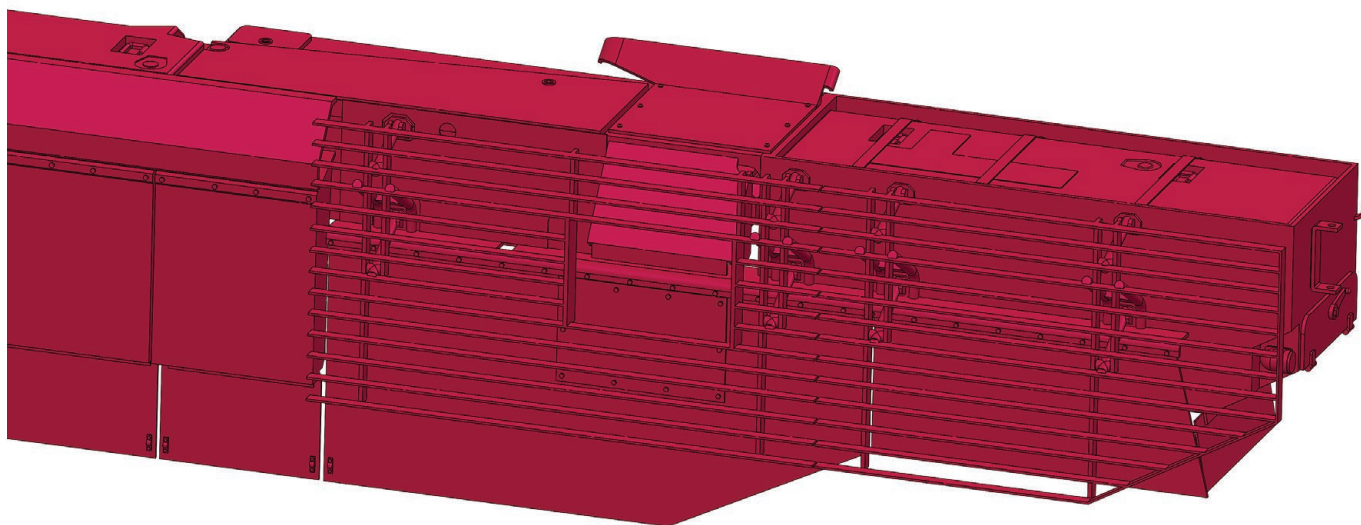
Assembly 06 (left fender)

step 12



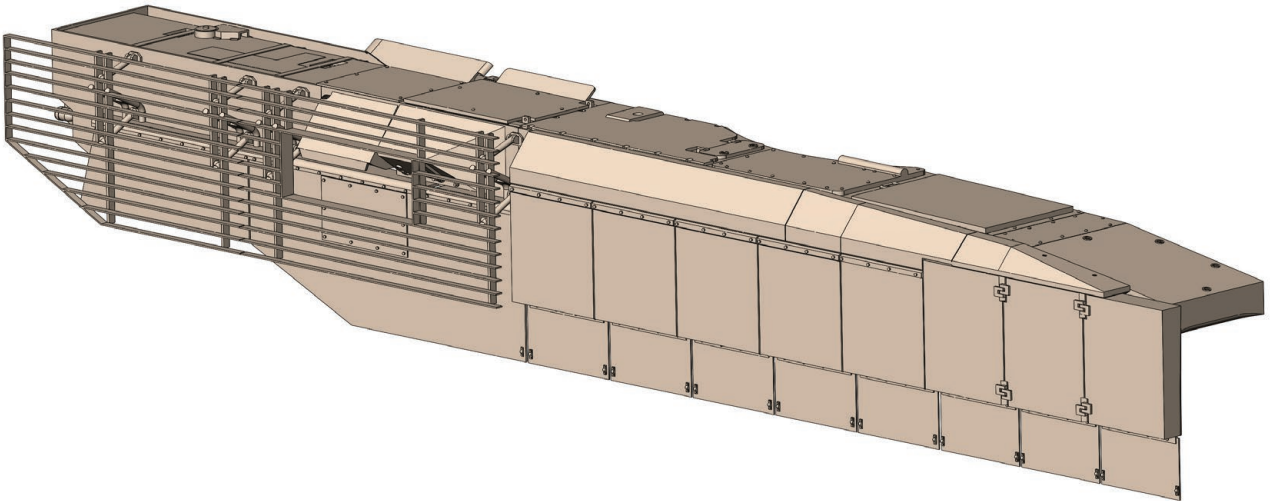
Glue parts 06-22 and 06-23.

step 12 detail



Correct position of parts 06-22 and 06-23.

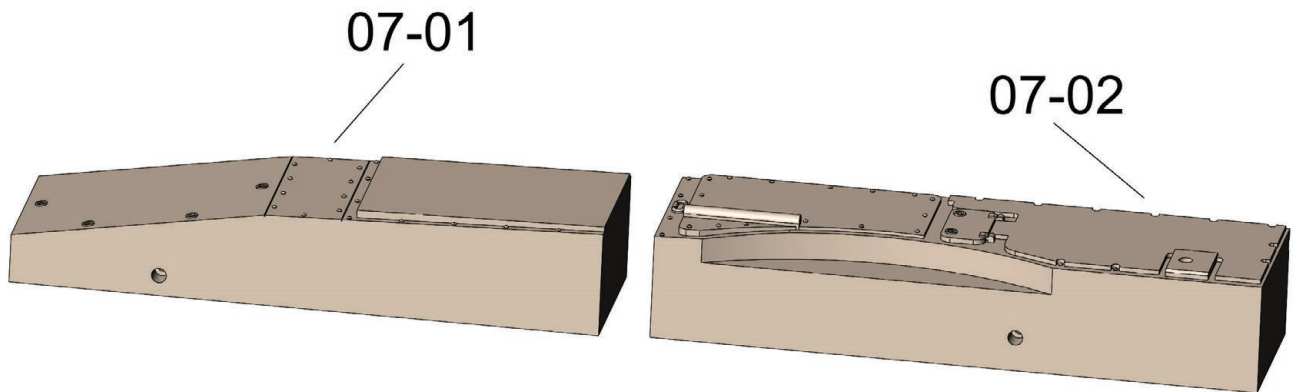
Assembly 07 (right fender)



AMOUNT:	1
PRINTED PARTS:	07-01 (1x), 07-02 (1x), 07-03 (1x), 07-04 (1x), 07-05 (1x), 07-06 (1x), 07-07 (1x), 07-08 (1x), 07-09 (1x), 07-10 (1x), 07-11 (1x), 07-12 (1x), 07-13 (1x), 07-14 (1x), 07-15 (5x), 07-16 (3x), 07-17 (1x), 07-18 (1x), 07-19 (1x), 07-20 (1x), 07-21 (1x), 07-22 (1x),
OPTIONAL PRINTED PARTS:	07-01_NO_BASE (1x), 07-02_NO_BASE (1x), 07-03_NO_BASE (1x), 07-04_NO_BASE (1x), 07-07_NO_BASE (1x), 07-08_NO_BASE (1x), 07-09_SLA (1x), 07-13_NO_BASE (1x), 07-14_NO_BASE (1x), 07-20_alt (1x), 07-21_alt (1x).
NON-PRINTED PARTS:	M3 NUTS (3x)
OPTIONAL NON-PRINTED PARTS:	

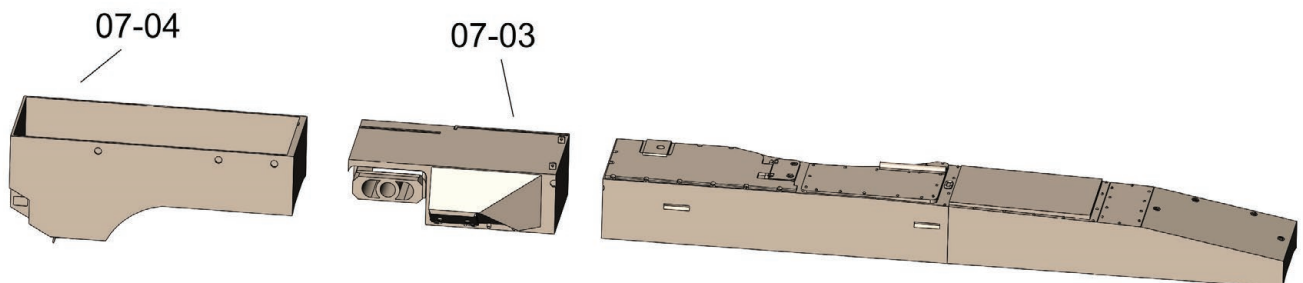
Assembly 07 (right fender)

step 1



Glue parts 07-01 and 07-02 together.
Make sure to align the bottom surface of the parts.

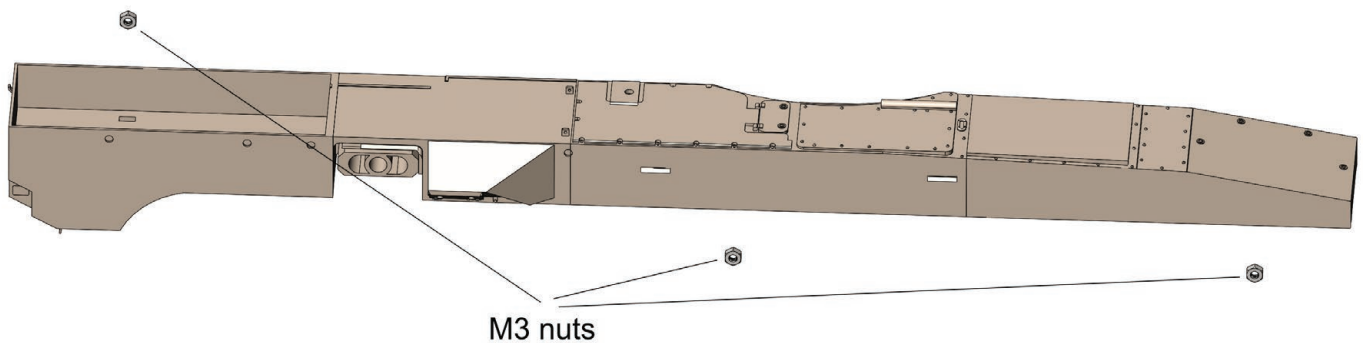
step 2



Glue parts 07-03 and 07-04. Make sure to align the bottom surface of the parts.

Assembly 07 (right fender)

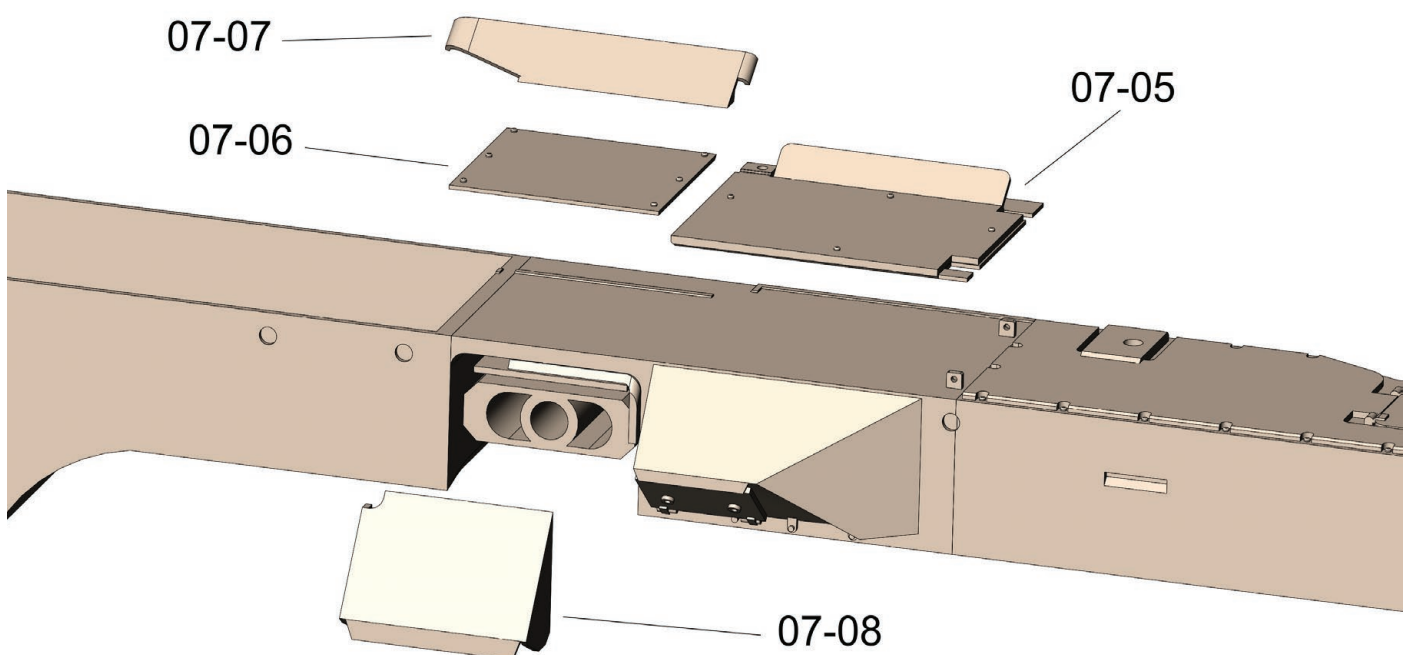
step 3



Insert the 3 M3 nuts. **It is very important to do this now - once the other parts are glued in, inserting one of them will be impossible.**

The nuts are inserted in the same places as on the left fender.
Two from the bottom and one from the top of the fender.

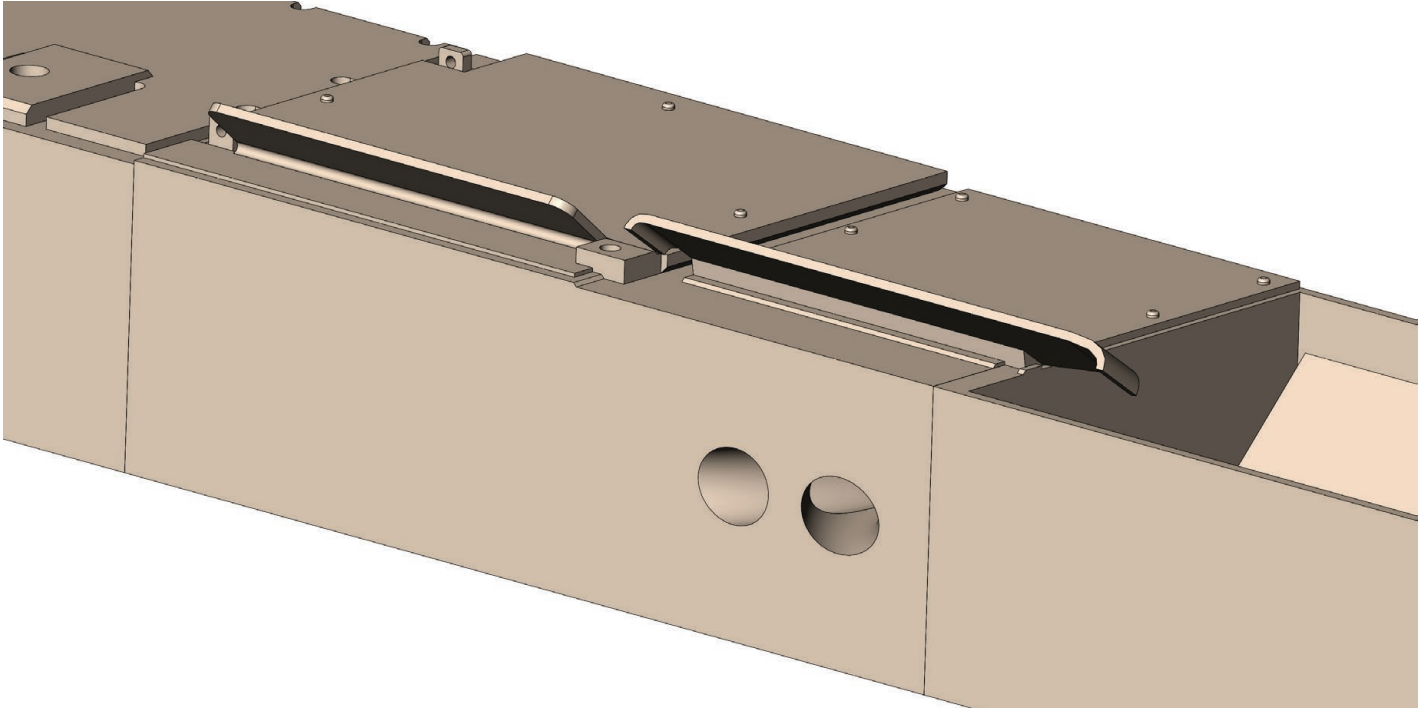
step 4



Glue parts 07-05, 07-06, 07-07 and 07-08.

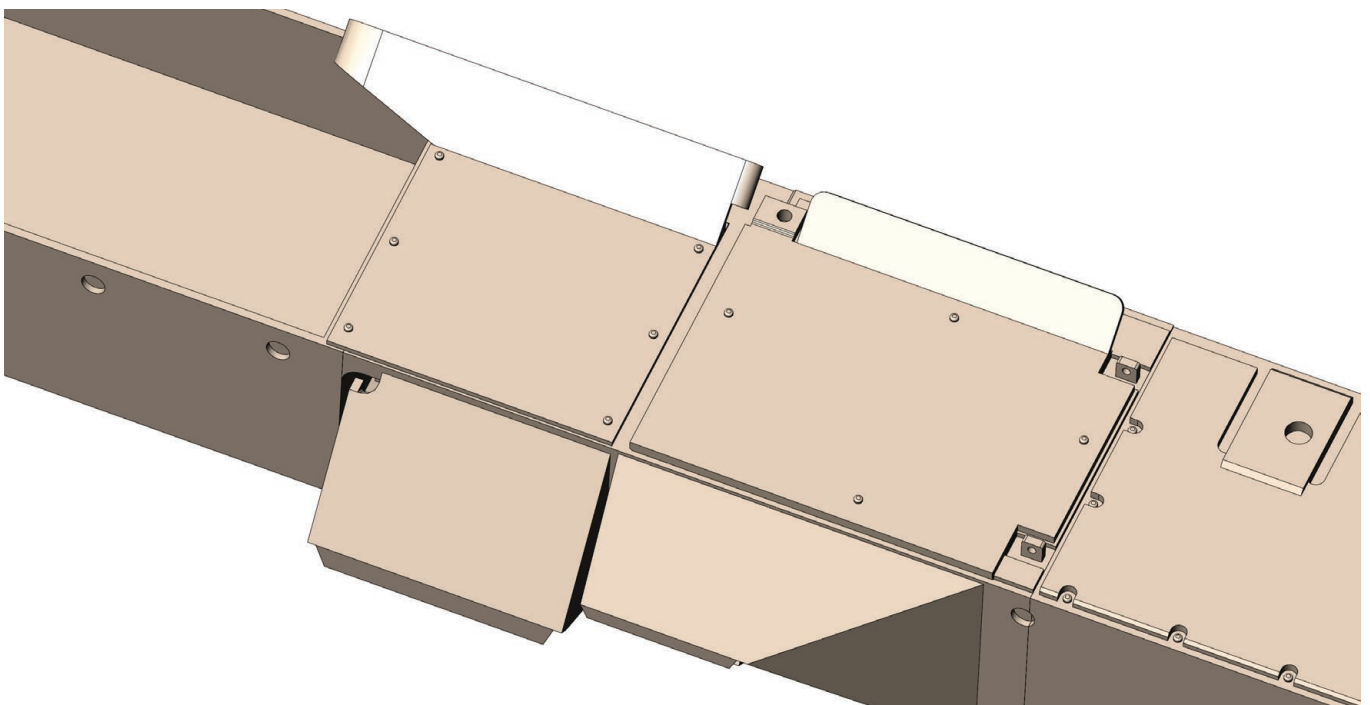
Assembly 07 (right fender)

step 4 detail



Detail of the correct position of part 07-07.
The part is located in front of the groove on part 07-03.

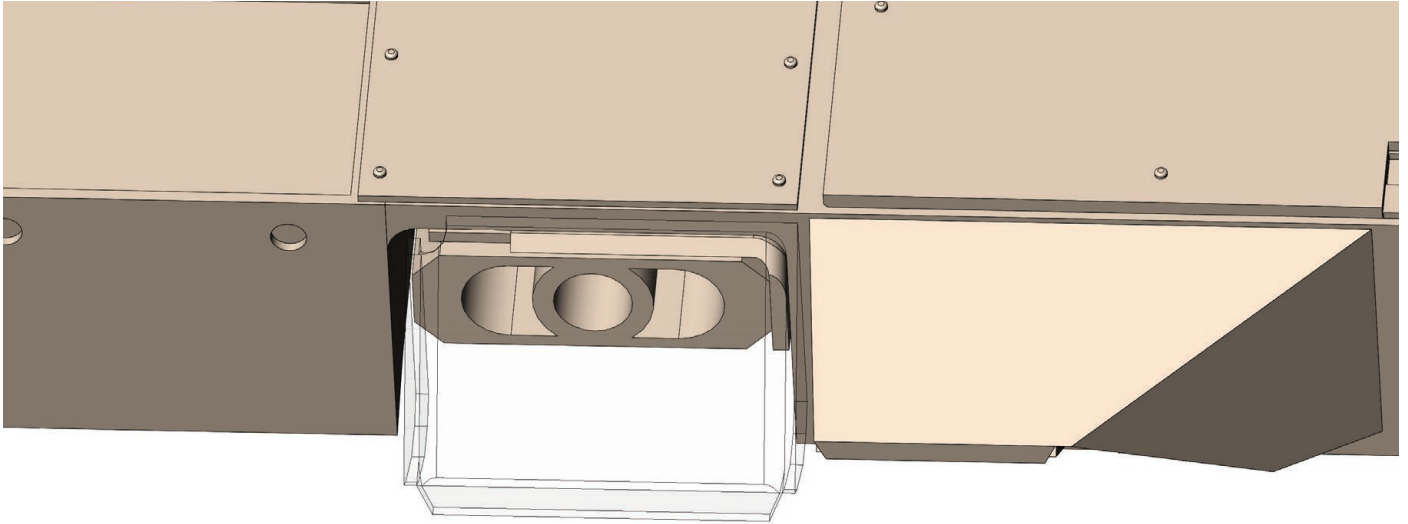
step 4 detail



Detail of the correct position of parts 07-05 and 07-06.

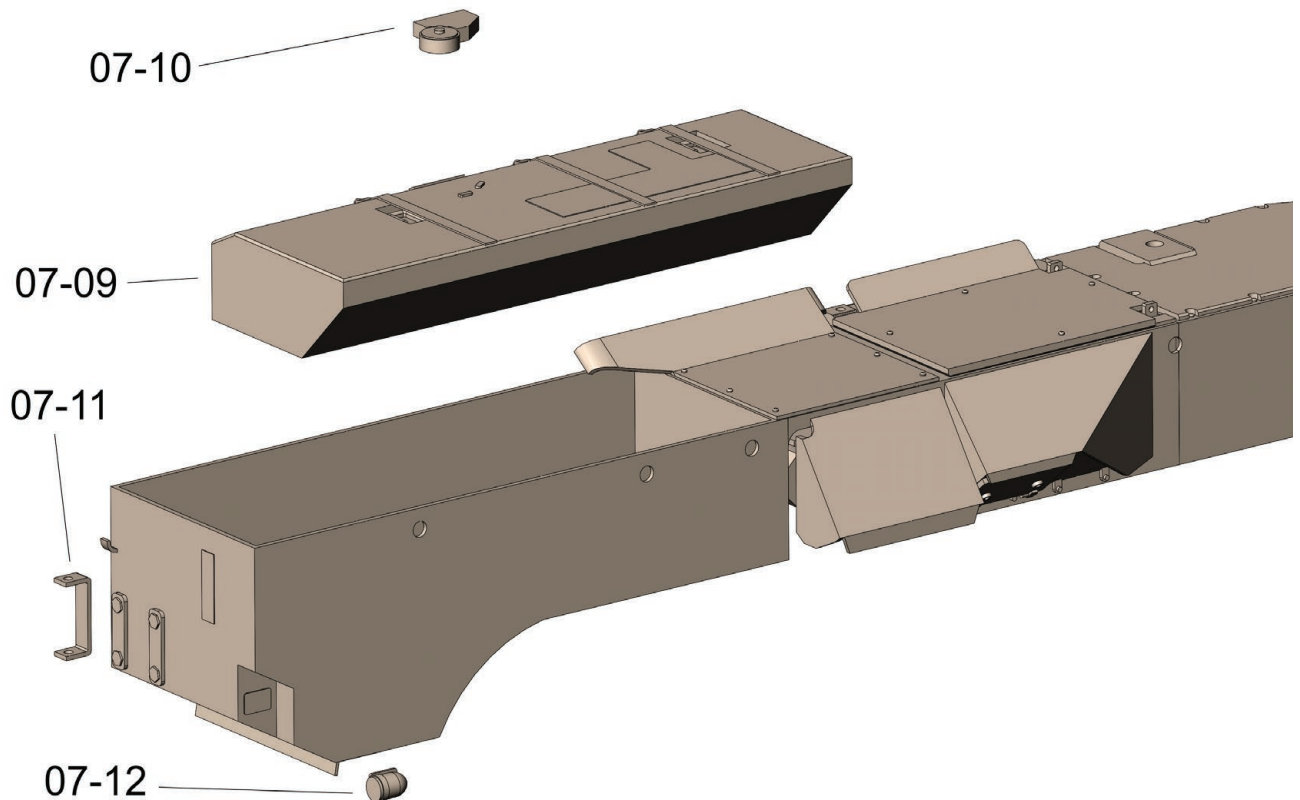
Assembly 07 (right fender)

step 4 detail



Detail of the correct position of part 07-08.
Glued from the inside to the grooves on part 07-03.

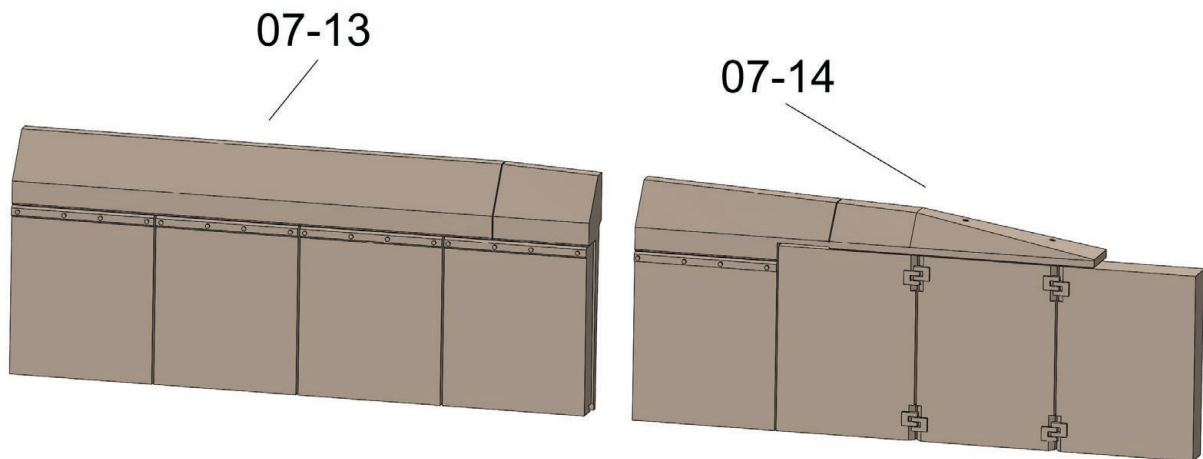
step 5



Glue parts 07-09, 07-10, 07-11 and 07-12.

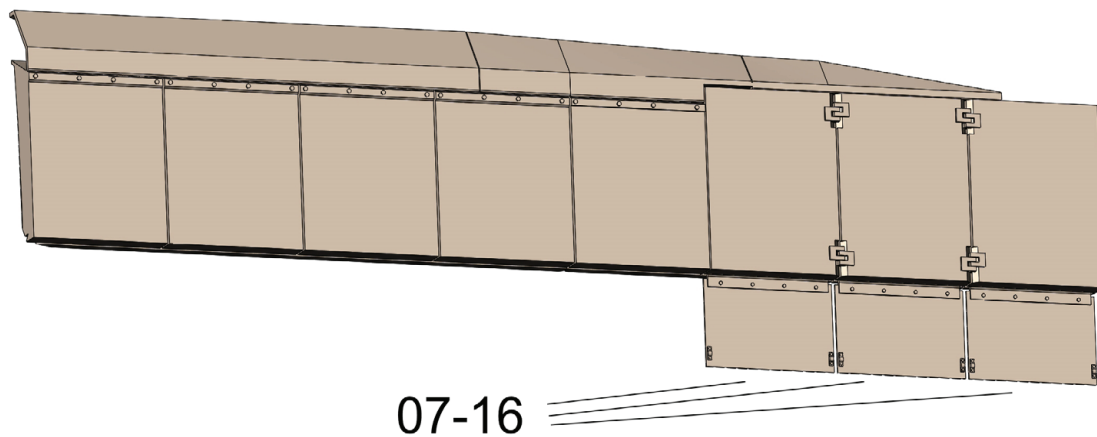
Assembly 07 (right fender)

step 6



Glue parts 07-13 and 07-14.

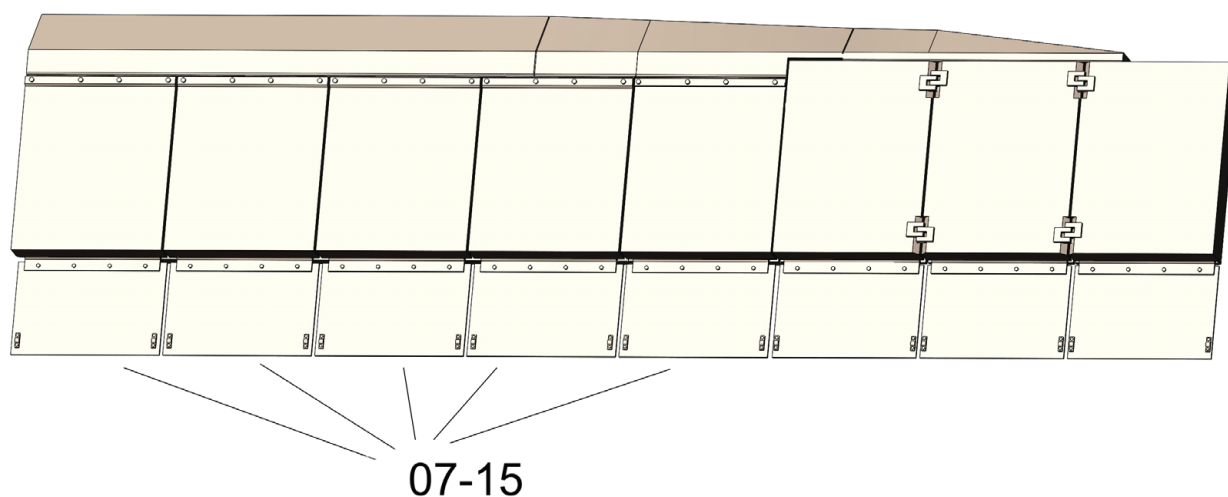
step 7



Slide the 3 parts 07-16 into the groove on the bottom of parts 07-13 and 07-14.

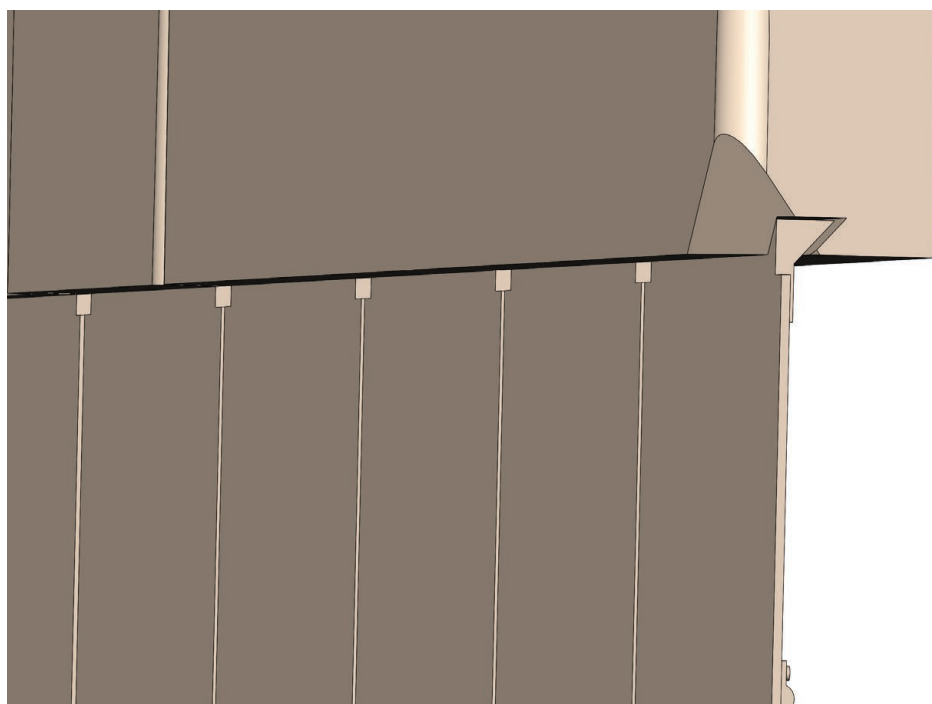
Assembly 07 (right fender)

step 8



Slide the 5 parts 07-15 into the groove on the bottom of parts 07-13 and 07-14.

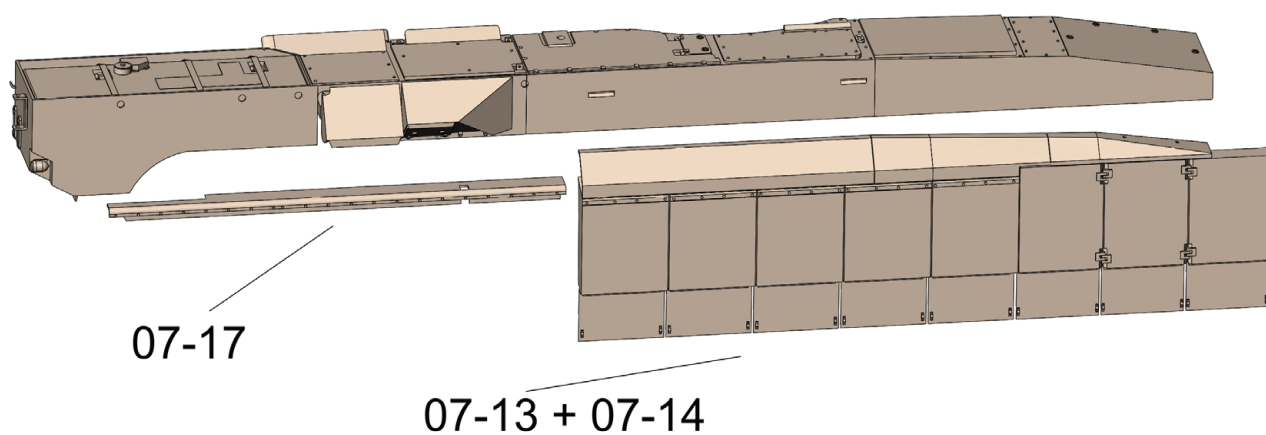
step 8 detail



Detail of the groove in part 07-13.

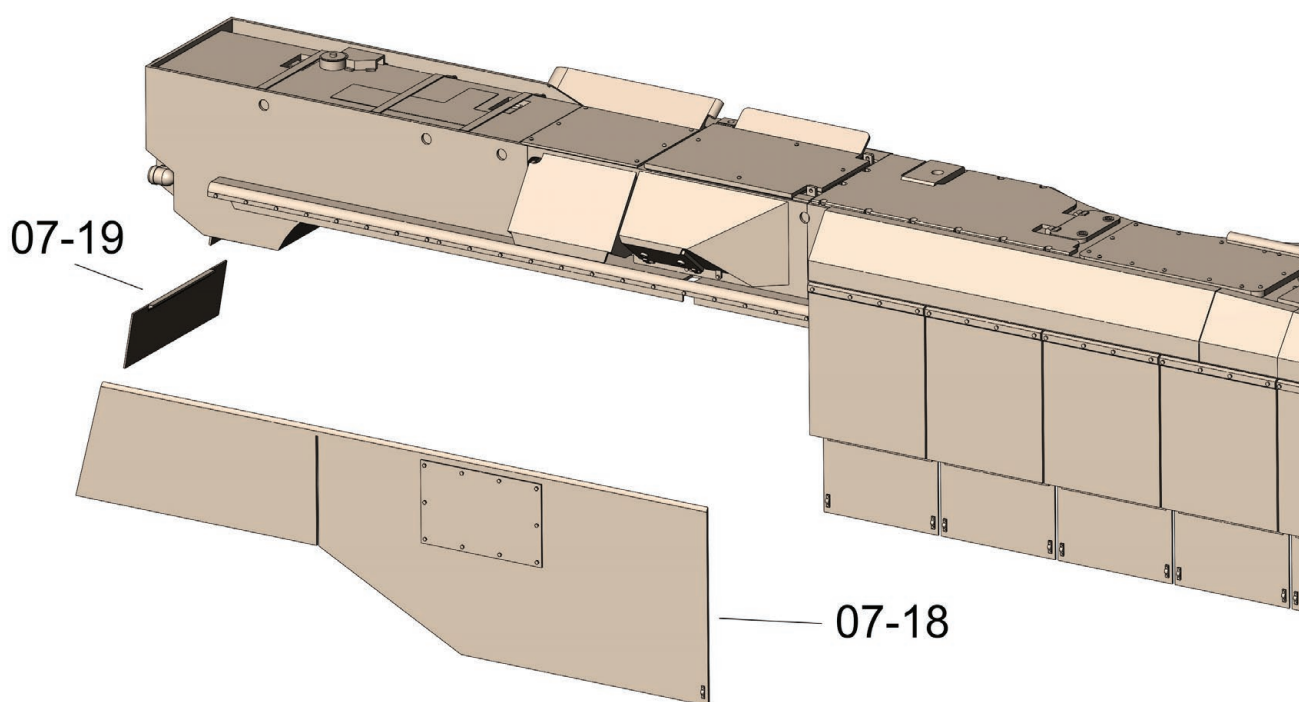
Assembly 07 (right fender)

step 9



Glue the prepared set of parts 07-13 + 07-14. Glue part 06-17.

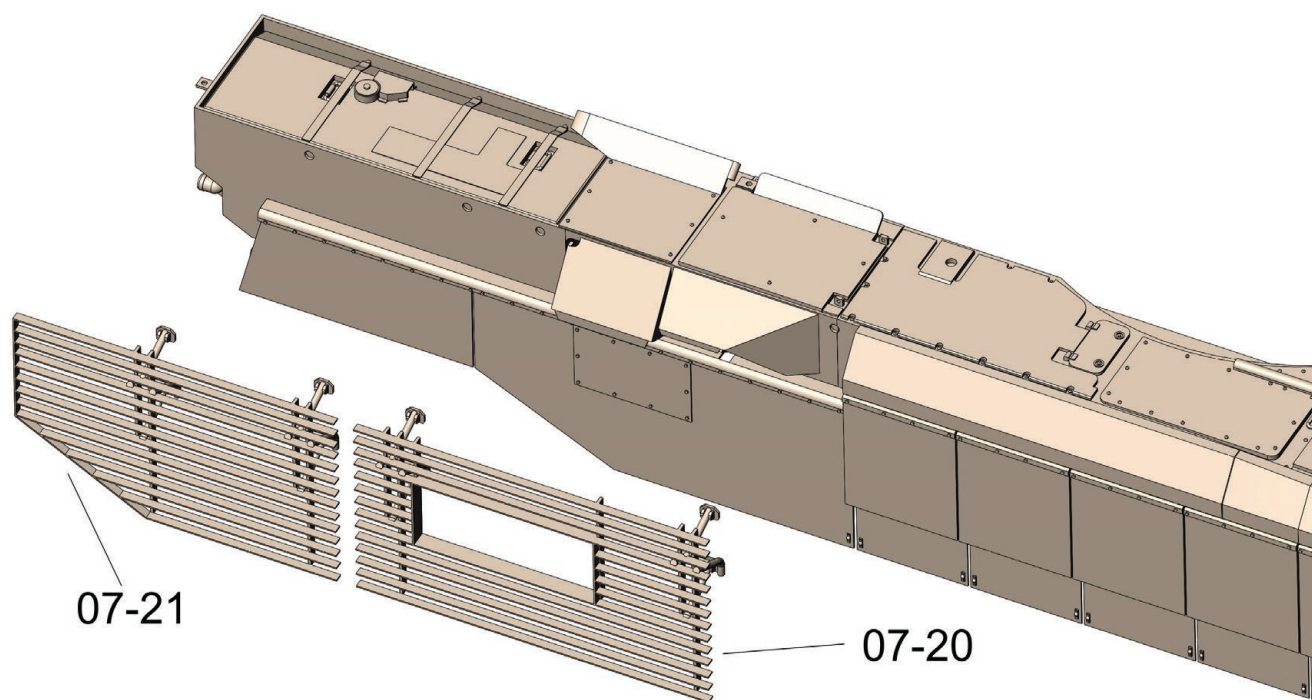
step 10



Glue parts 07-18 and 07-19.

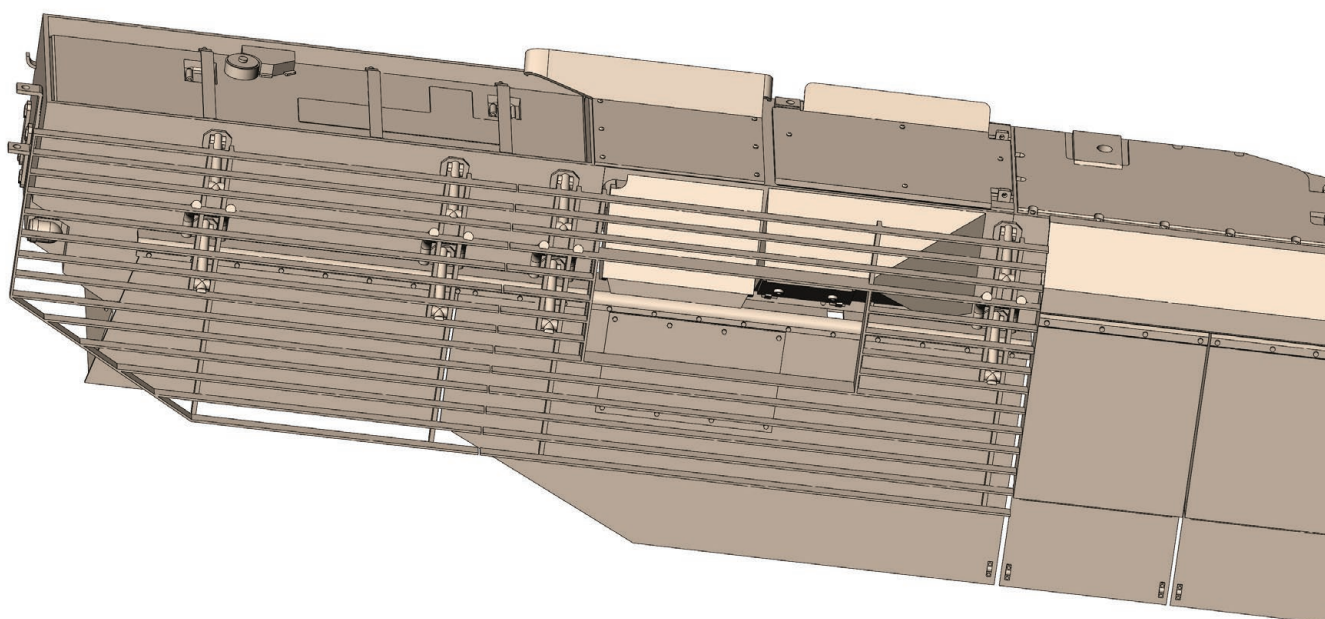
Assembly 07 (right fender)

step 11



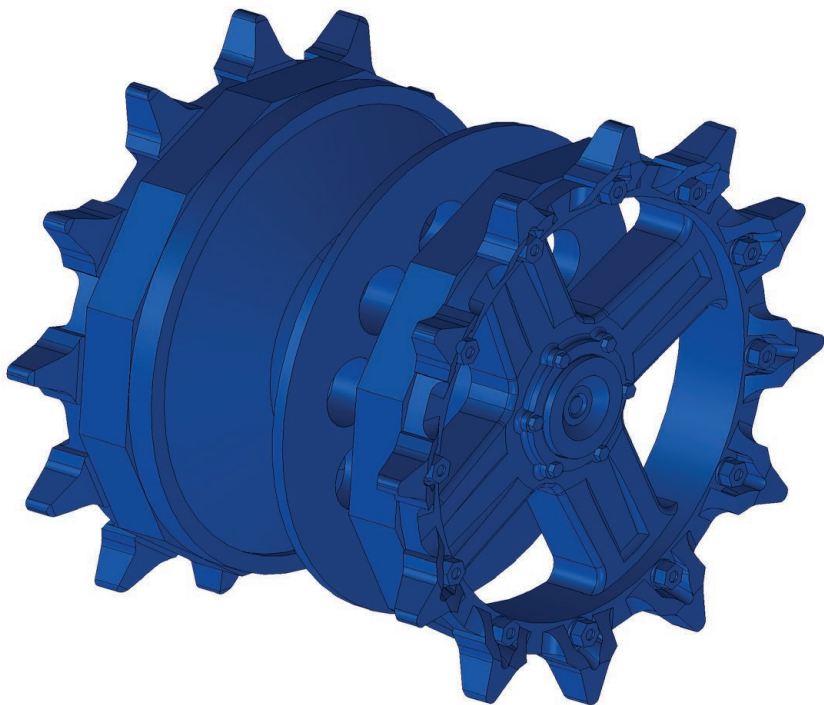
Glue parts 07-20 and 07-21.

step 11 detail



Detail of parts 07-20 and 07-21.

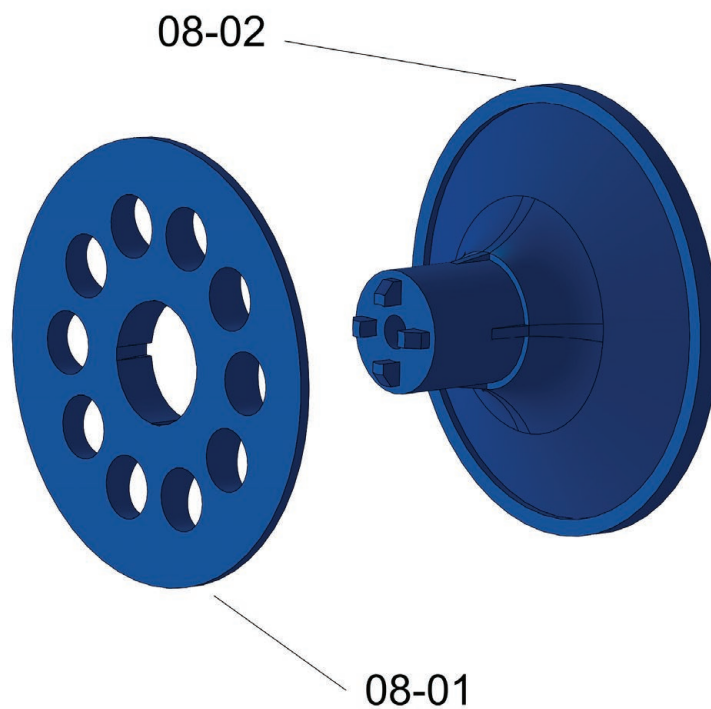
Assembly 08 (sprocket)



AMOUNT:	2
PRINTED PARTS:	08-01 (2x), 08-02 (2x), 08-03 (2x), 08-04 (2x), 08-05 (2x).
OPTIONAL PRINTED PARTS:	<p>There is no default version of sprocket. Choose a group of STL files from one of the 3 folders.</p> <p>shaft_48mm_bore_3mm, shaft_48mm_bore_4mm, shaft_58mm_bore_3mm</p>
NON-PRINTED PARTS:	Screw suitable for your gearbox (2x).
OPTIONAL NON-PRINTED PARTS:	

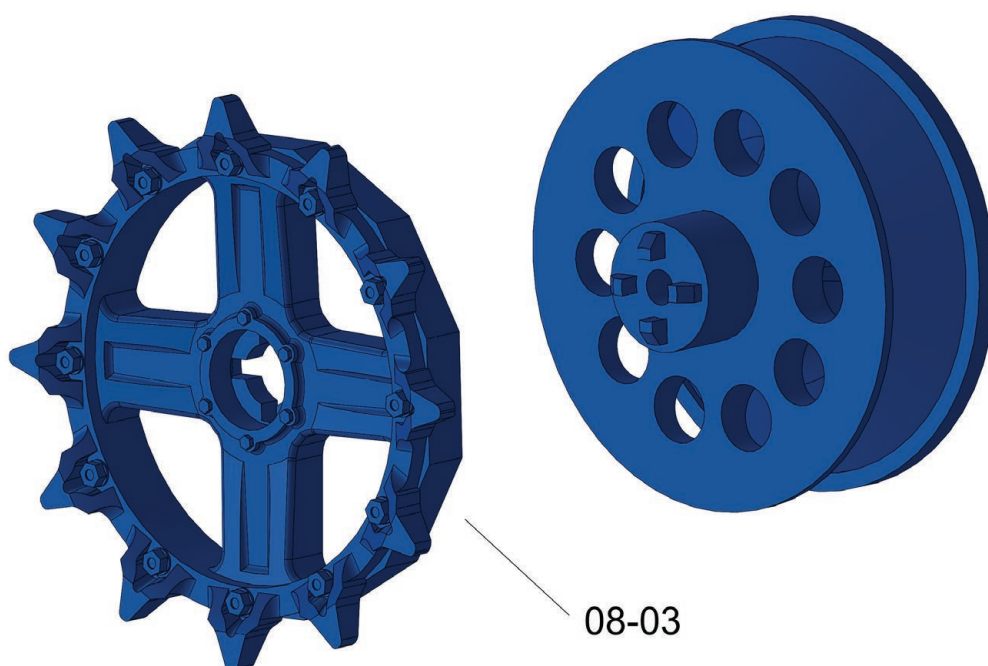
Assembly 08 (sprocket)

step 1



Glue parts 08-01 and 08-02 together.

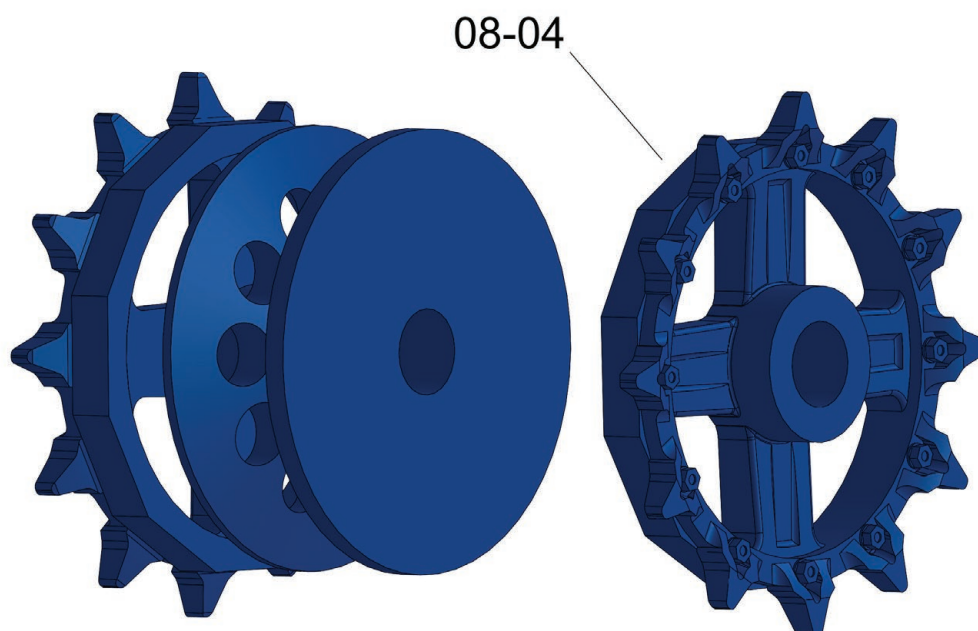
step 2



Glue part 08-03.

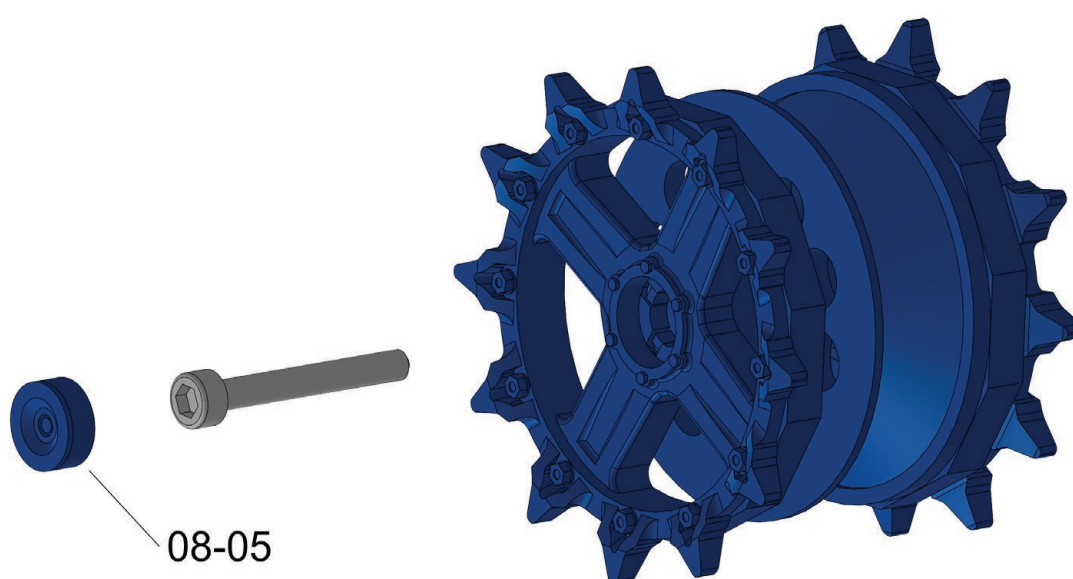
Assembly 08 (sprocket)

step 3



Glue the part 08-04.
Make sure the teeth are aligned correctly on both sides of the sprocket.

step 4



To mount the sprocket, use a screw suitable for your gearbox and part 08-05.
Connect the 08-05 part after the gearboxes are installed.

Assembly 09 (cannon) printing

There are 3 different types of cannon to choose from.
The cannon can be exchanged for another type at any time:

A - servo-controlled elevation and retraction. Possible installation of a flash unit. We recommend using the MTCU control unit by Kim Olsen.

B - airsoft cannon. Use your old airsoft unit from Heng-Long® or Torro® tank.

C - standard recoil, compatible with classic Heng-Long® and Torro® recoil units.



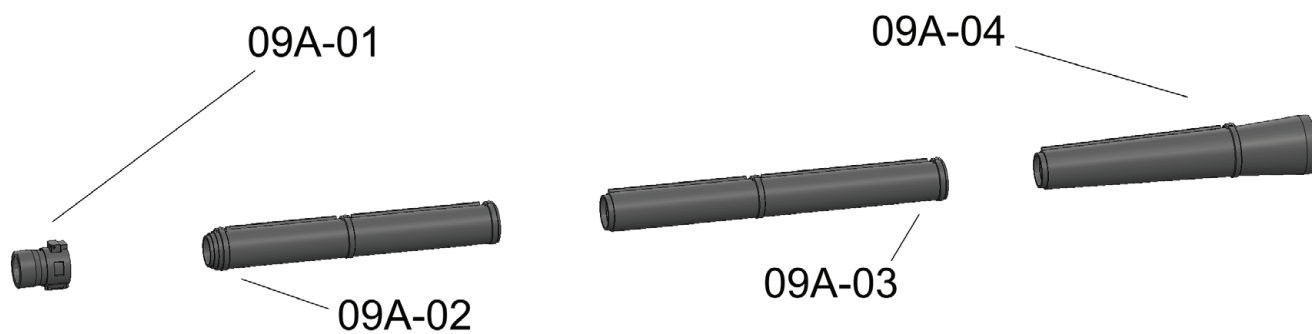
Assembly 09A (cannon A)



AMOUNT:	1
PRINTED PARTS:	09A-01 (1x), 09A-02 (1x), 09A-03 (1x), 09A-04 (1x), 09A-05 (1x), 09A-06 (1x), 09A-07 (1x), 09A-08 (1x), 09A-09 (1x), 09A-10 (1x), 09A-11 (1x), 09A-12 (1x), 09A-13 (1x), 09A-14 (1x), 09A-15 (1x), 09A-16 (1x)
OPTIONAL PRINTED PARTS:	09A-01_SLA, 09A-02_SLA, 09A-02_NO_BASE, 09A-03_SLA, 09A-03_NO_BASE, 09A-04_SLA, 09A-04_NO_BASE.
NON-PRINTED PARTS:	M1,6x4 screw (1x), M1,6x6 screw (1x), M2x6 screw (2x), M2x8 screw (9x), M3x12 screw (2x), M3 NUT (2x), M2 NUT (10x), M1,6 NUT (1x), 623zz bearing (2x), TOWERPRO® SG90 9g SERVO (2x), TOWERPRO® SG90 servo arm (2x), TOWERPRO® SG90 9g SERVO screw (2x),
OPTIONAL NON-PRINTED PARTS:	

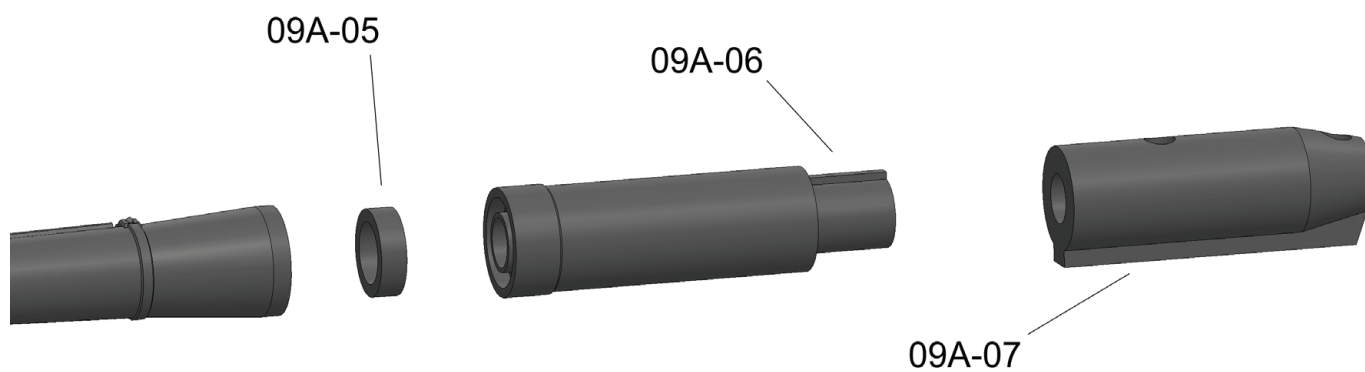
Assembly 09A (cannon A)

step 1



Glue parts 09A-01, 09A-02, 09A-03 and 09A-04.

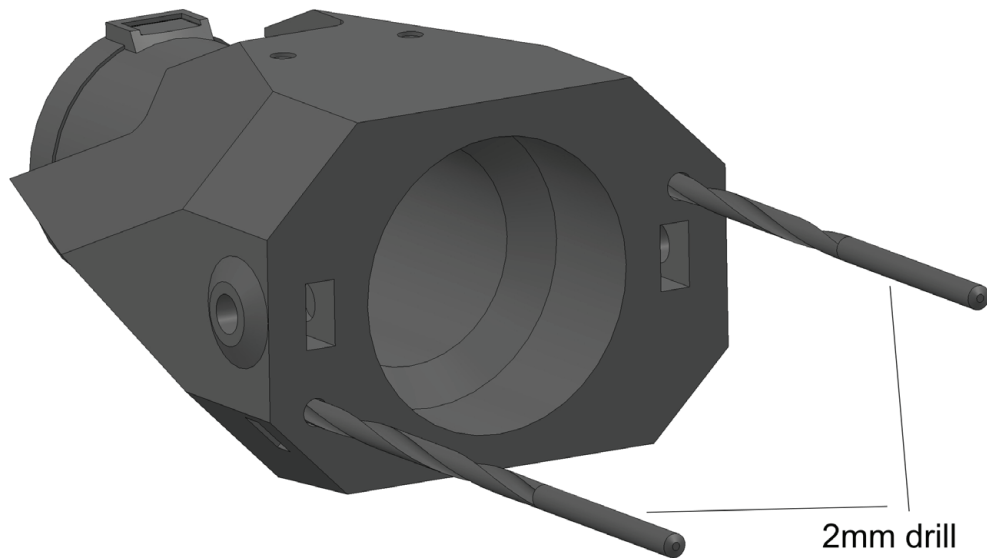
step 2



Glue parts 09A-05, 09A-06 and 09A-07.

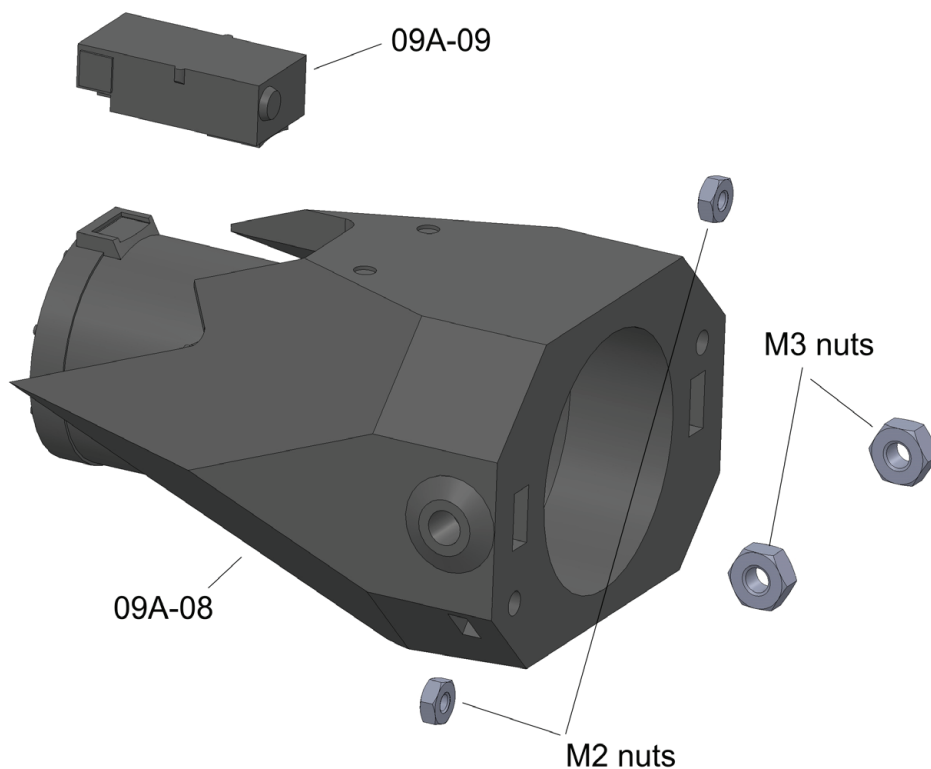
Assembly 09A (cannon A)

step 3



Drill the holes in part 09A-08 with a drill bit with a diameter of 2 - 2.5mm.

step 4



Glue parts 09A-08 and 09A-09 together. Insert two nuts M2 and two nuts M3.

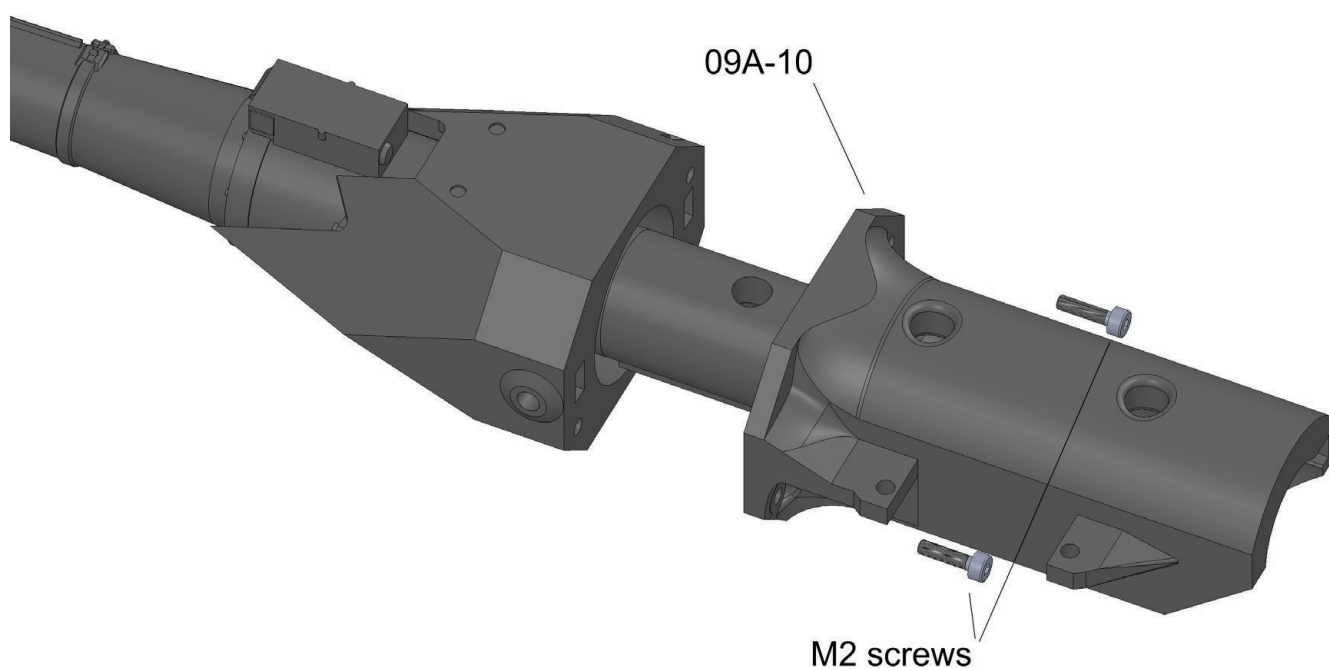
Assembly 09A (cannon A)

step 5



Insert the whole of parts 09A-01 to 09A-07 into part 09A-08.

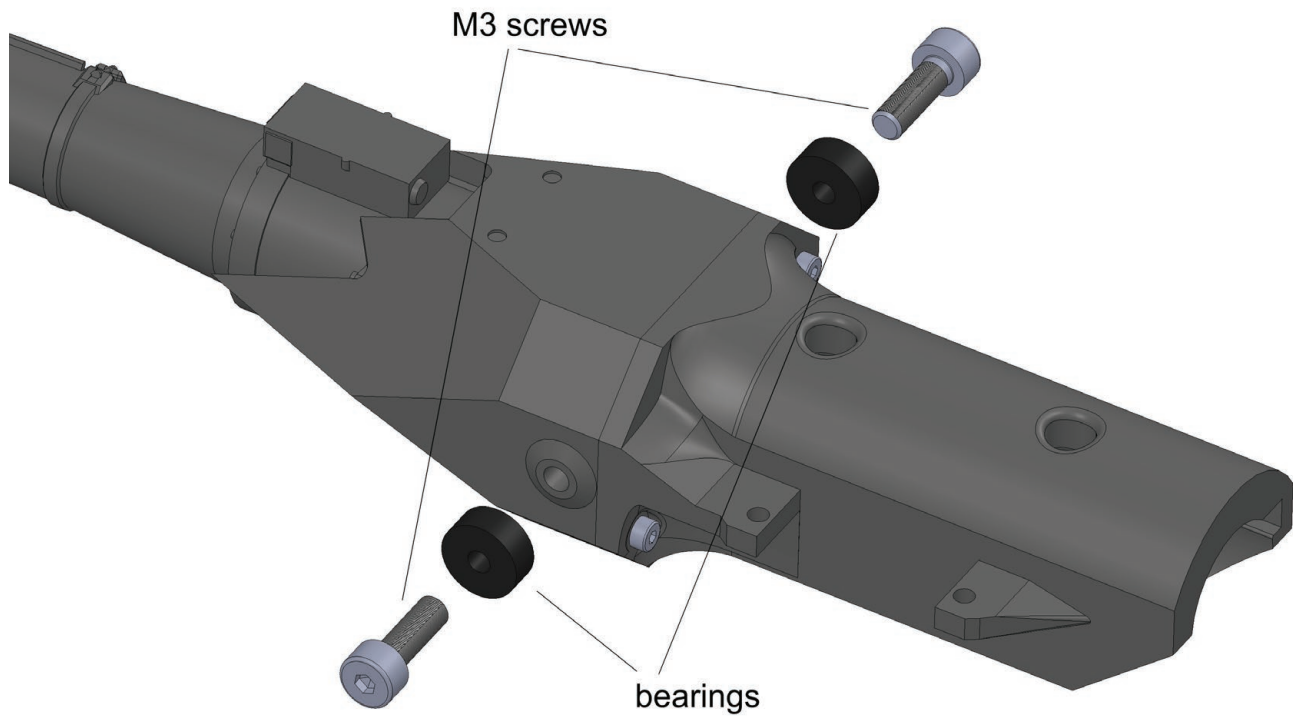
step 6



Screw the part 09A-10 with two M2x8mm screws.

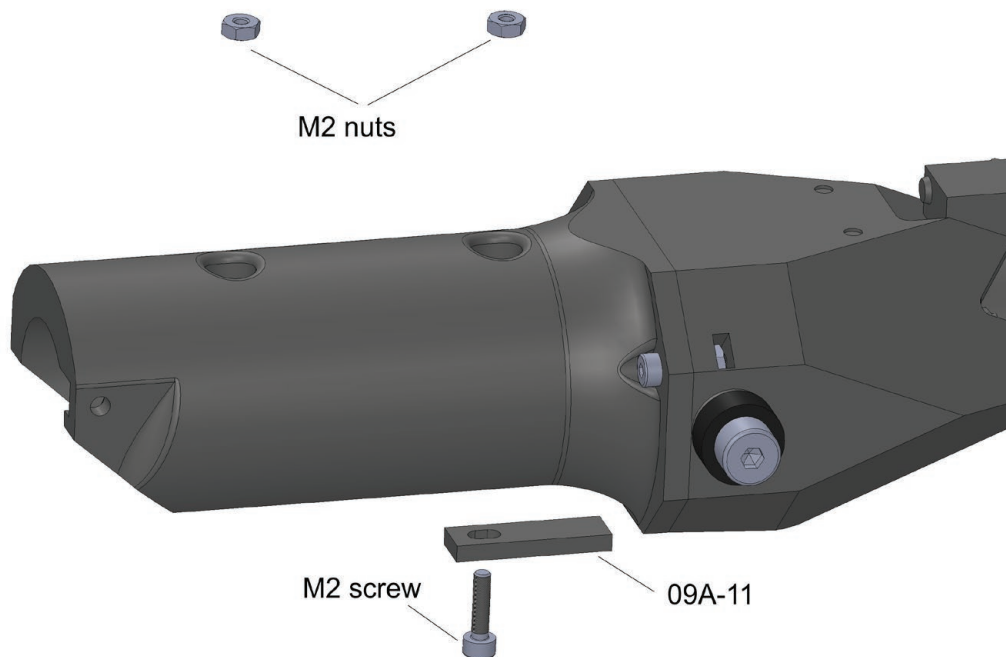
Assembly 09A (cannon A)

step 3



Attach two 623zz bearings with two M3x12mm screws.

step 4

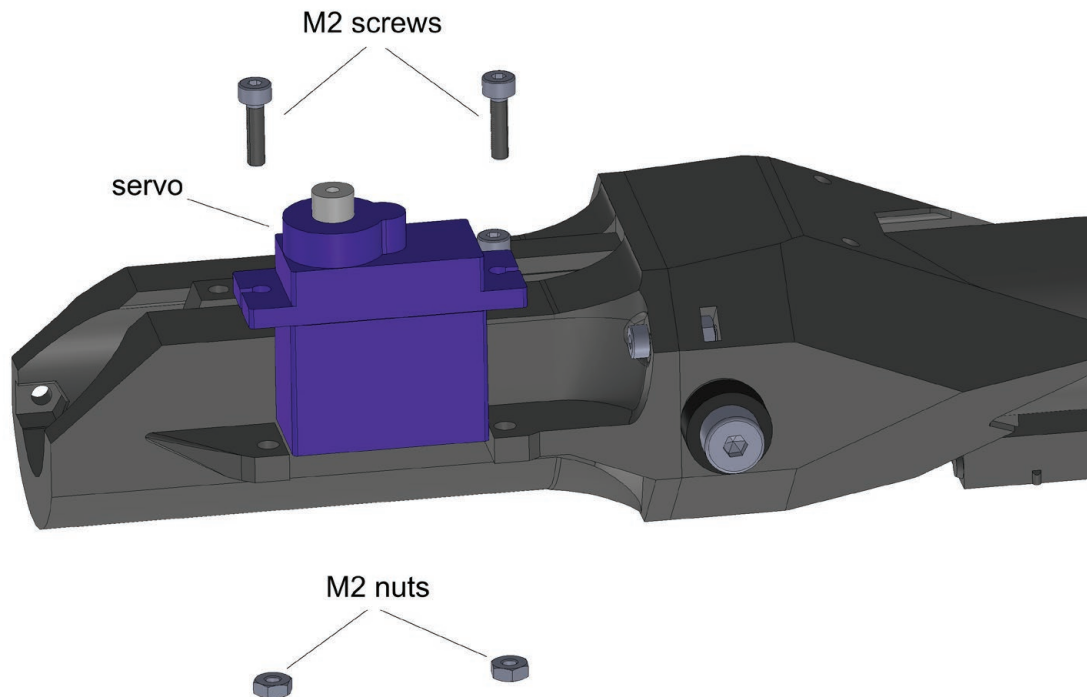


Press two M2 nuts into part 09A-07.

Installation is convenient due to the service holes in part 09A-10.
Also attach part 09A-11 to part 09A-07 with an M2x8mm screw.

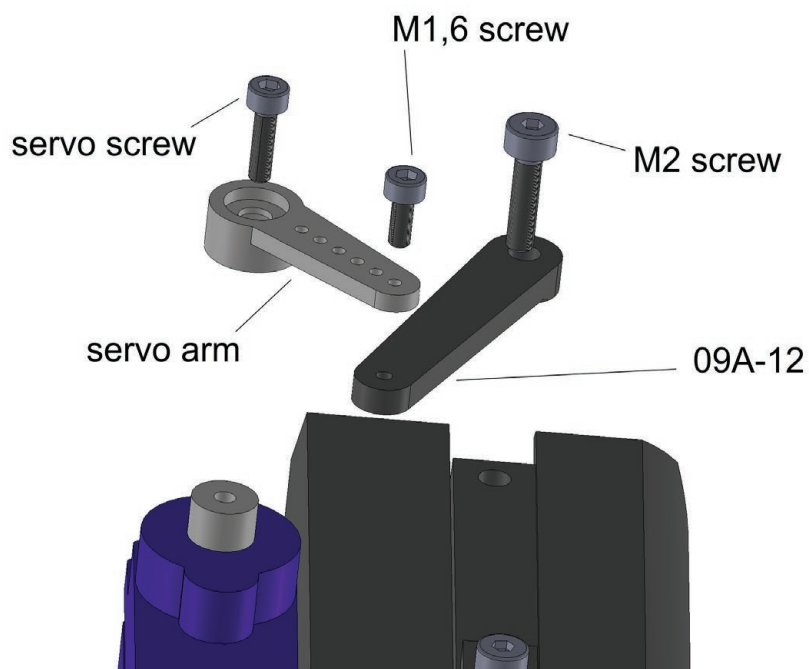
Assembly 09A (cannon A)

step 5



Attach the servo using two M2x8mm screws and M2 nuts.

step 6

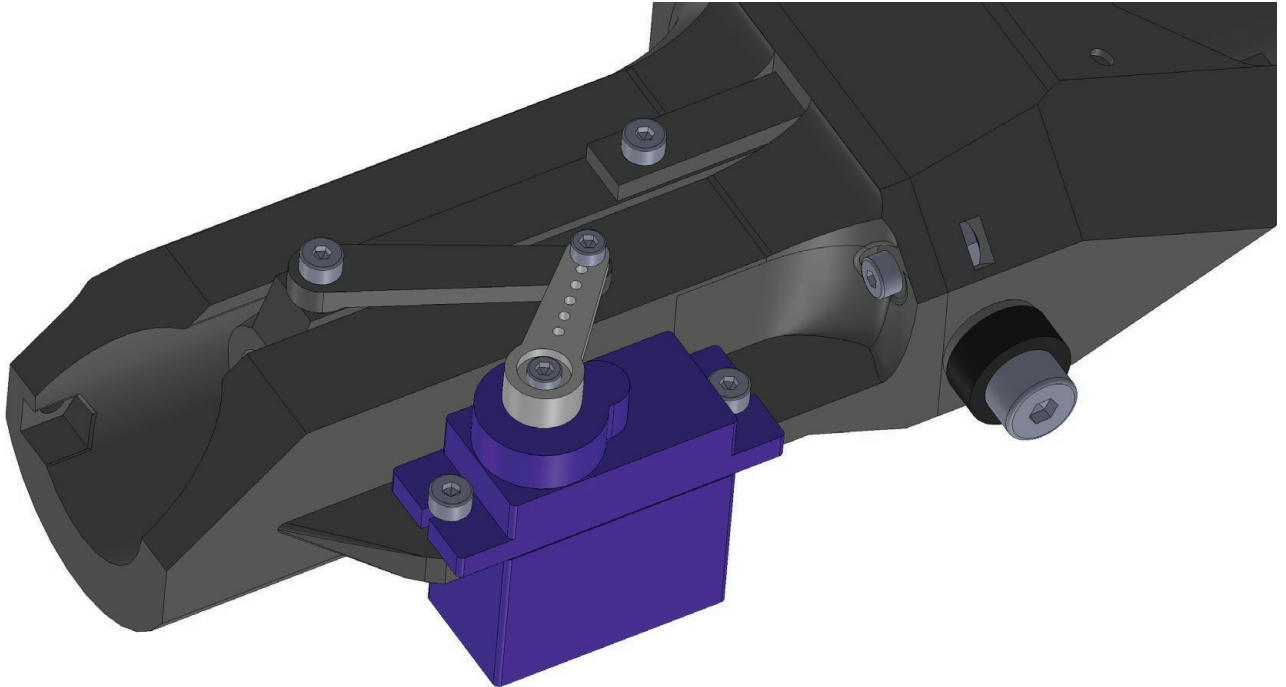


Fix the part 09A-12 on the part 09A-07 with the screw M2x8mm, fix the servo arm on the servo with the screw.

Connect the two units in the middle with the screw M1,6x4mm.

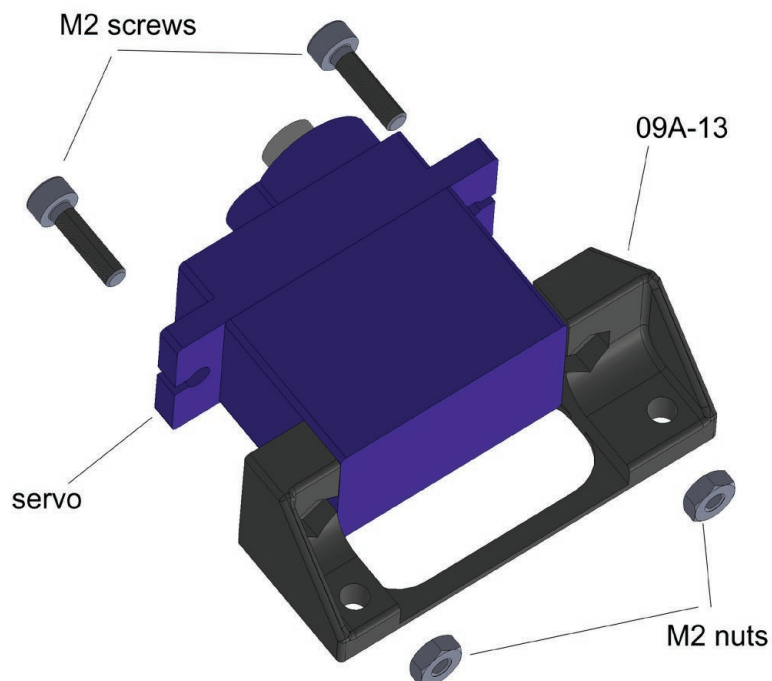
Assembly 09A (cannon A)

step 6 detail



Detailed view of the correct servo connection.
The servo arm is at a 45° angle to the cannon.

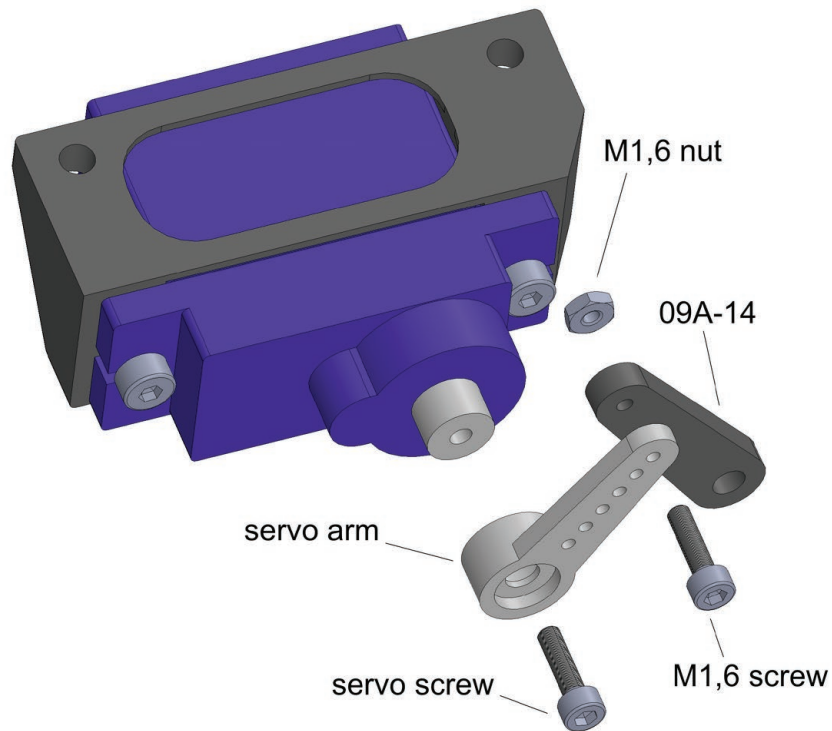
step 7



Prepare the cannon elevation mechanism for future installation in the turret.
Use part 09A-13, servo, M2x8mm screws and M2 nuts.

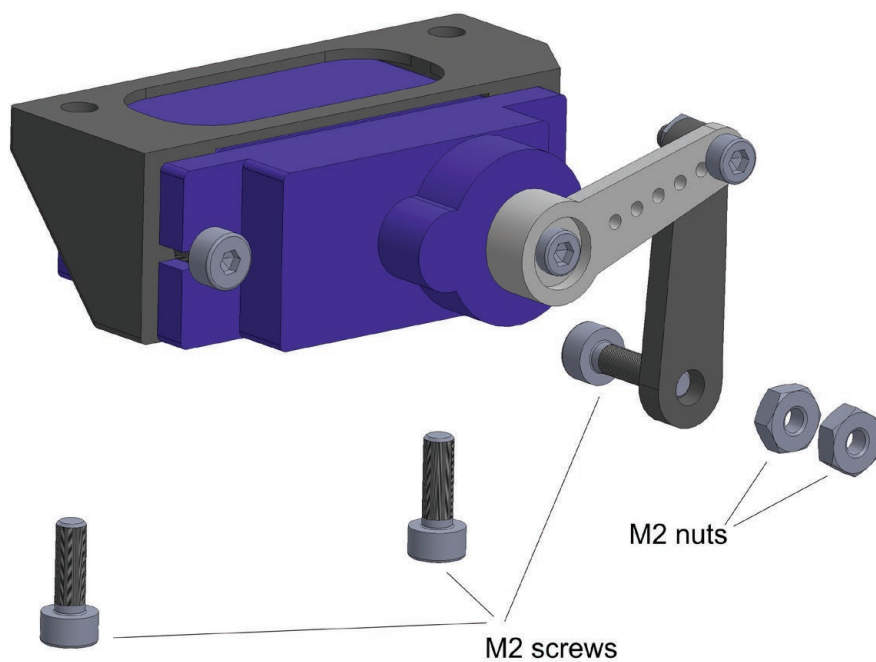
Assembly 09A (cannon A)

step 8



Attach the servo arm with the provided screw, and secure the 09A-14 part against the arm with the M1.6x6mm screw and M1.6 nut.

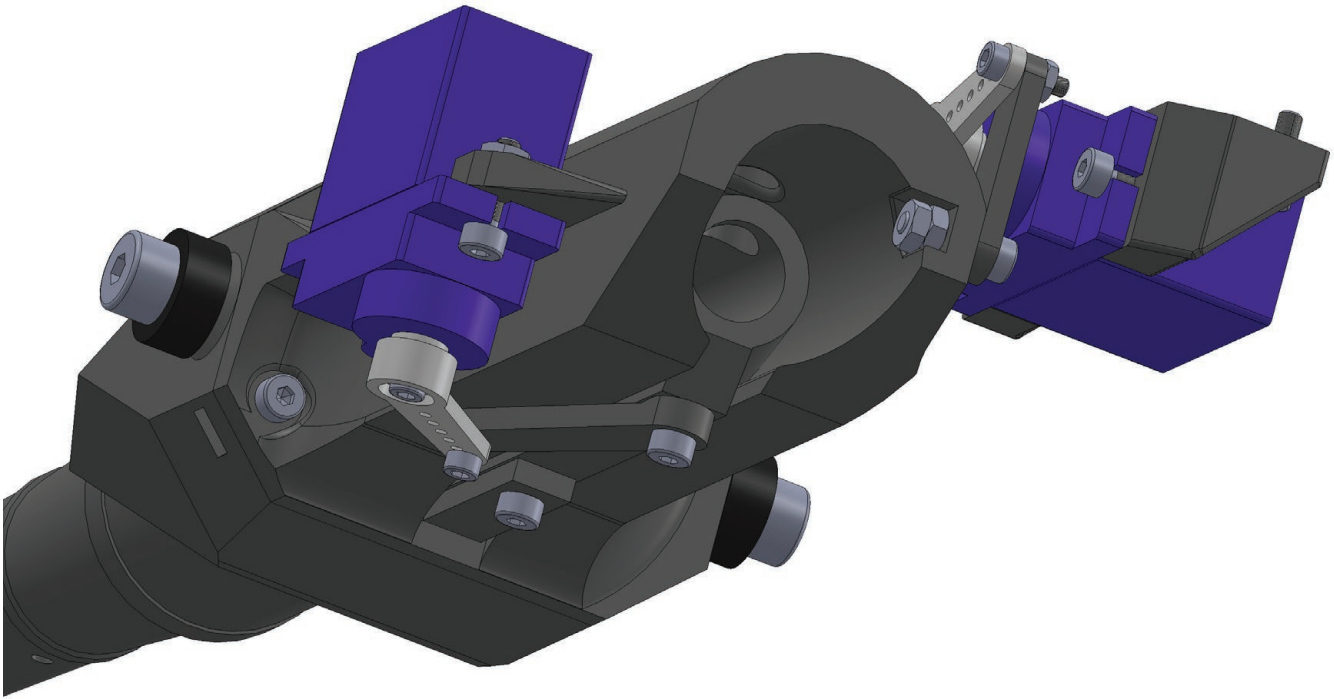
step 9



Prepare two M2x6mm screws, one M2x8mm screw and two M2 nuts to install the cannon in the turret.

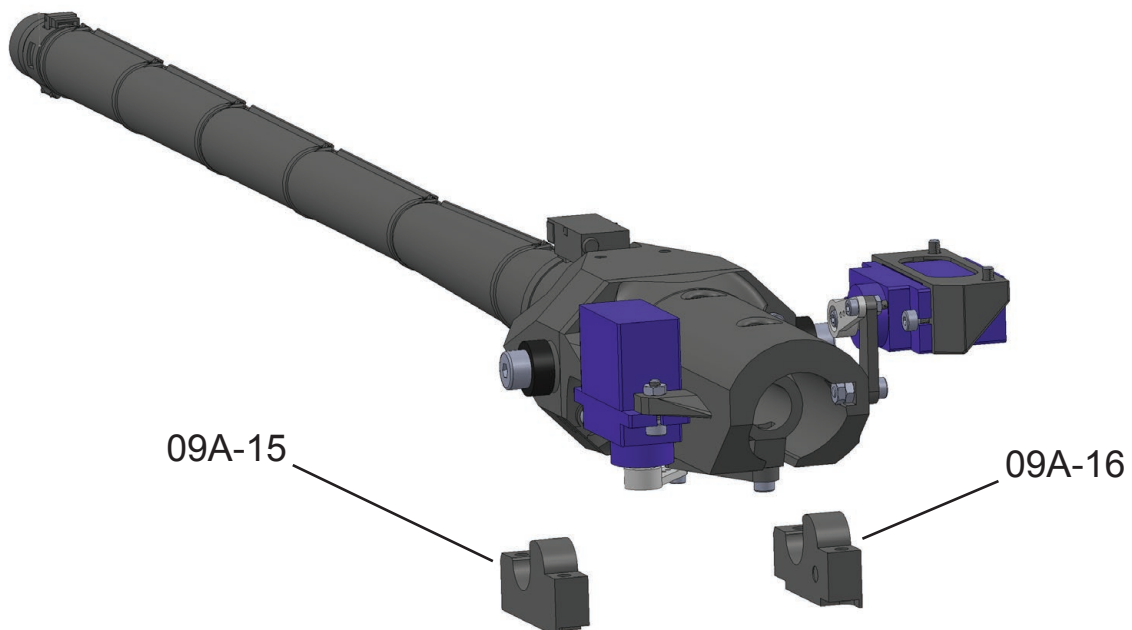
Assembly 09A (cannon A)

step 9 detail



Detail of the mechanism after mounting in the turret.

step 10



Prepare parts 09A-15 and 09A-16 for mounting the gun in the turret.

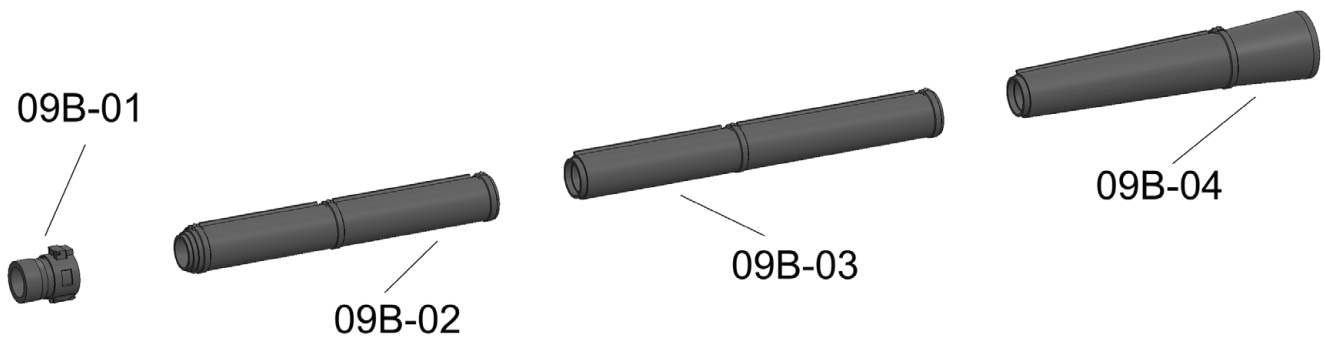
Assembly 09B (cannon B)



AMOUNT:	1
PRINTED PARTS:	09B-01 (1x), 09B-02 (1x), 09B-03 (1x), 09B-04 (1x), 09B-05 (1x), 09B-06 (1x), 09B-07 (2x), 09B-08 (1x), 09B-09 (1x), 09B-10 (1x),
OPTIONAL PRINTED PARTS:	09B-02_NO_BASE, 09B-03_NO_BASE, 09B-04_NO_BASE.
NON-PRINTED PARTS:	M2x6 screw (4x), MR117ZZ bearing (2x), MATO®, Heng-Long®, Torro® or compatible airsoft unit, MATO®, Heng-Long®, Torro® or compatible gun elevatin unit and spring.
OPTIONAL NON-PRINTED PARTS:	

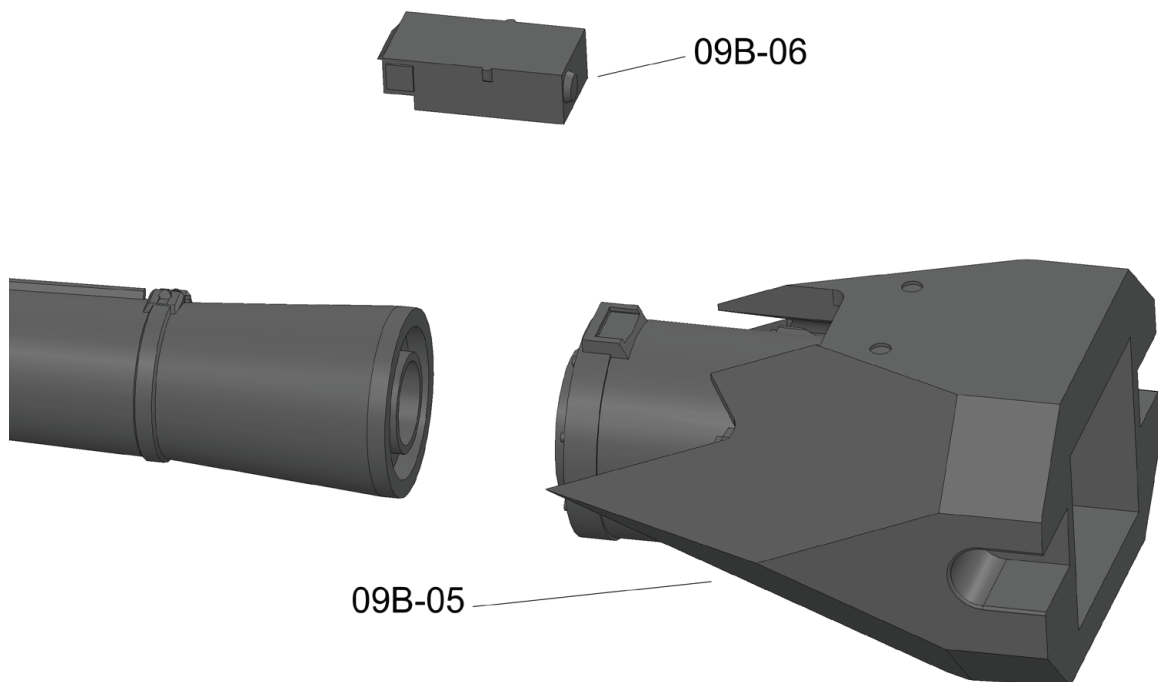
Assembly 09B (cannon B)

step 1



Glue parts 09B-01, 09B-02, 09B-03 and 09B-04.

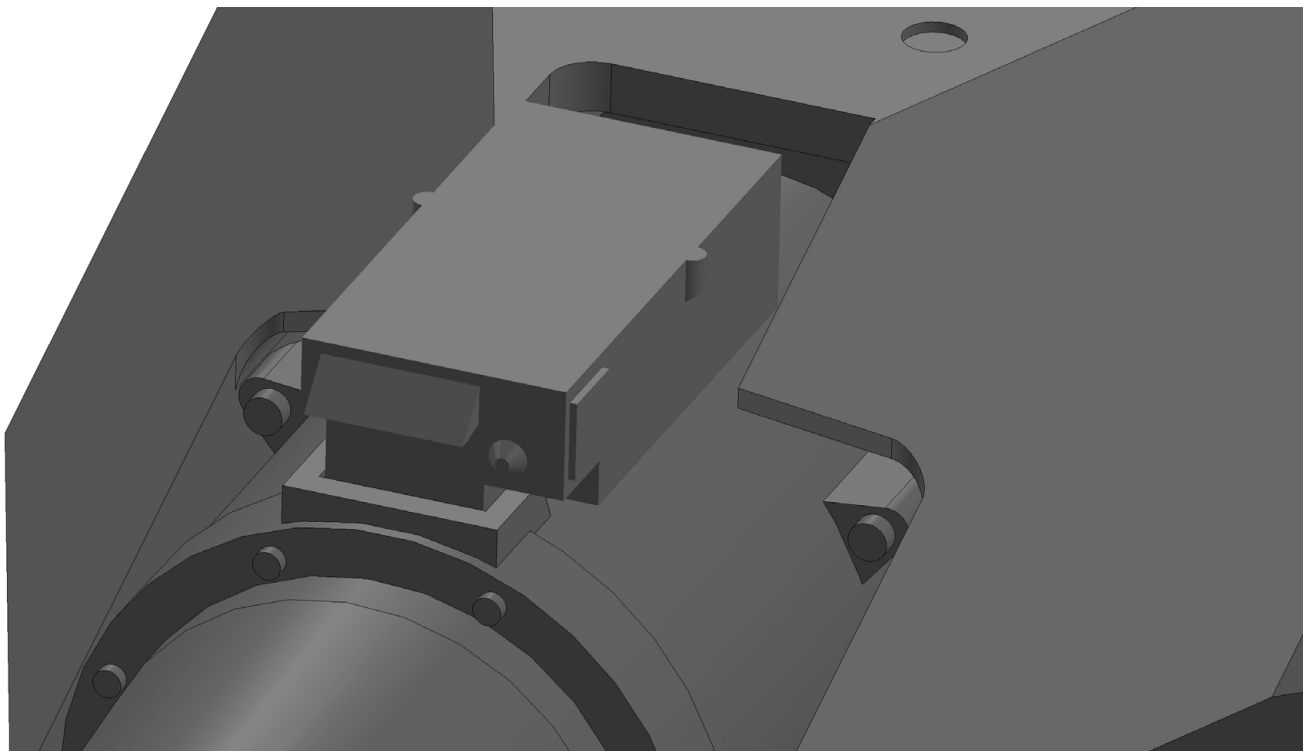
step 2



Glue parts 09B-05 and 09B-06 together and then glue parts 09B-01 to 09B-04 together.

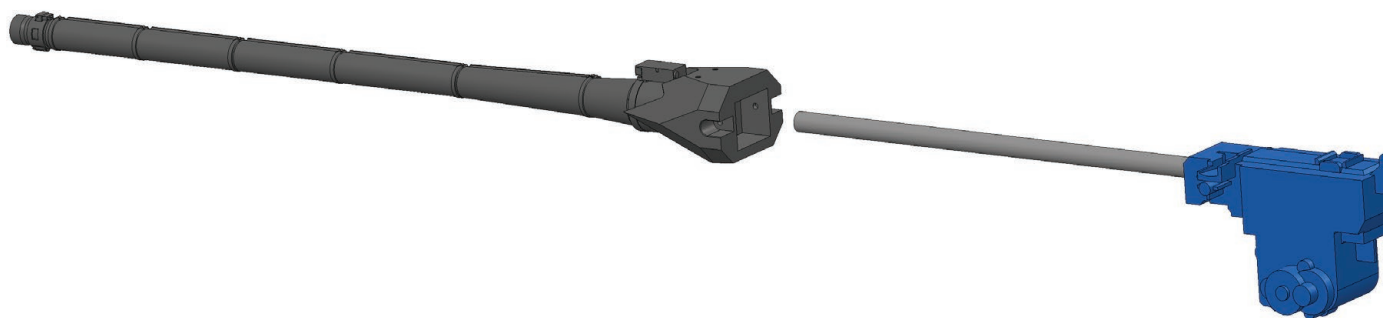
Assembly 09B (cannon B)

step 2 detail



Detail of the correct position of part 09B-06.

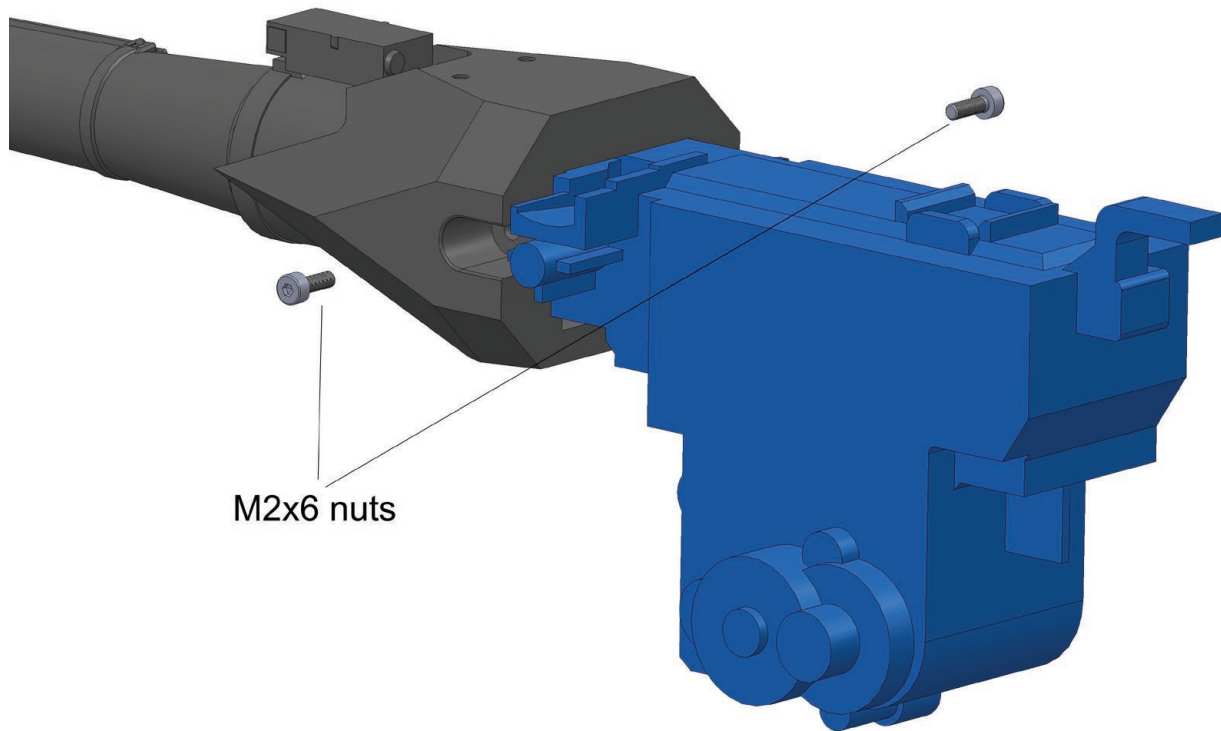
step 3



Insert the airsoft unit into the 09B cannon.

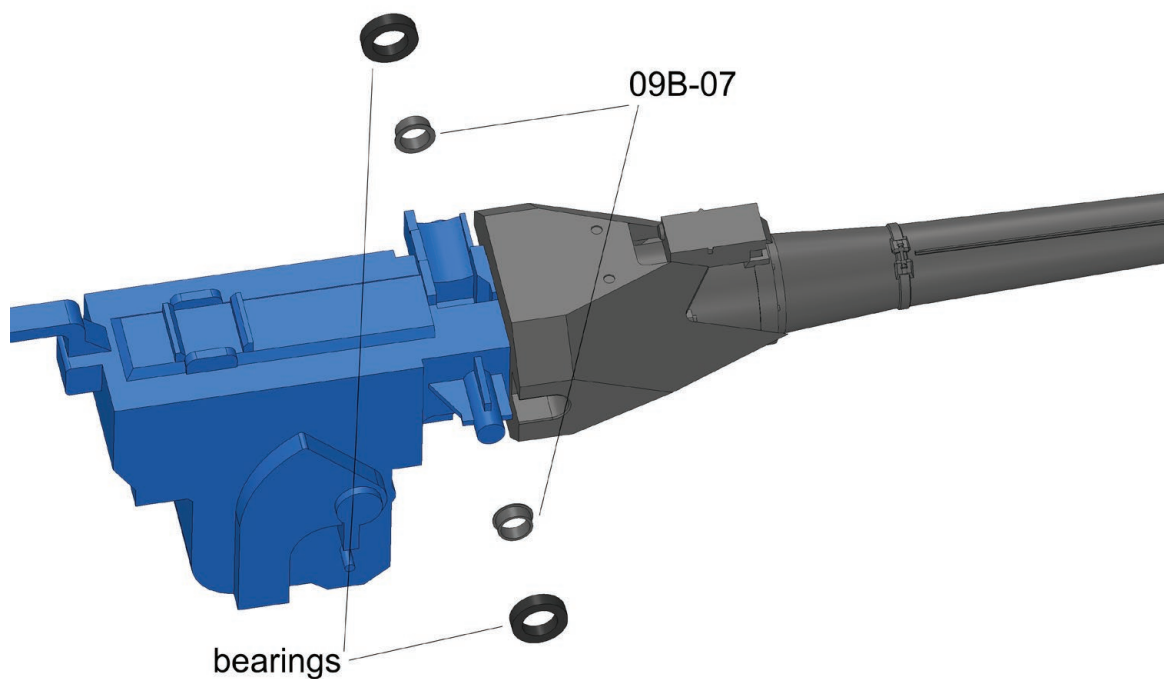
Assembly 09B (cannon B)

step 4



Secure with two M2x6mm screws.

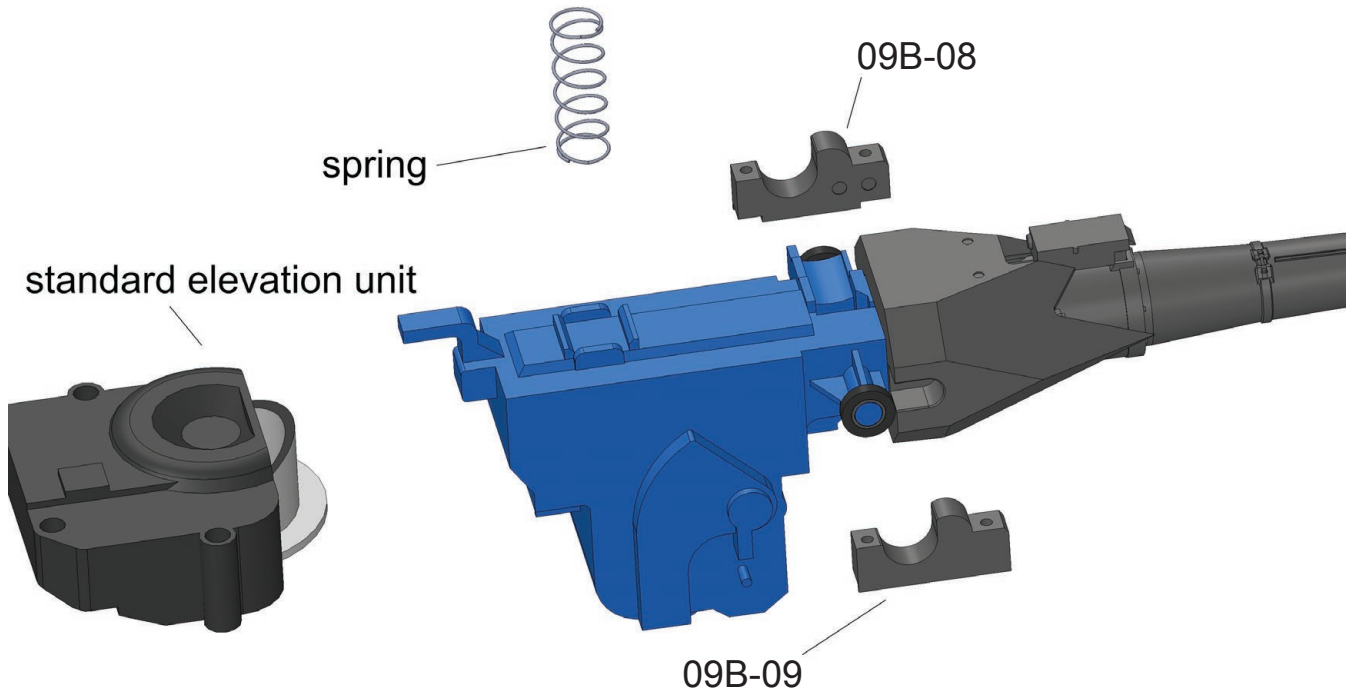
step 5



Fit parts 09B-07 and bearings MR117zz.

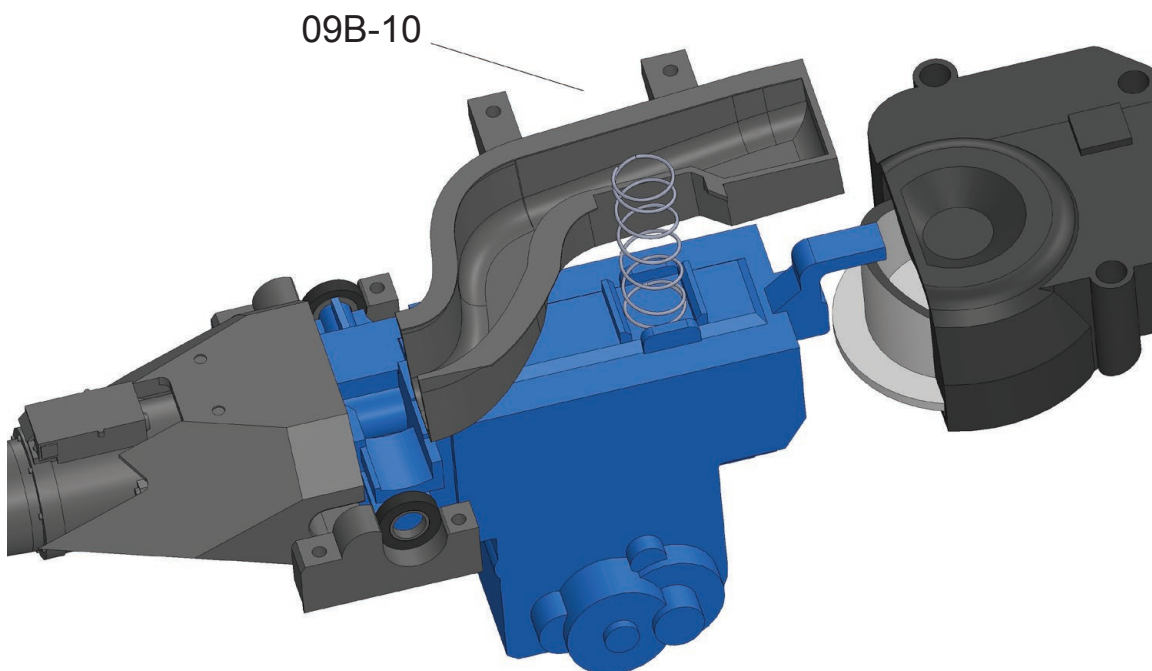
Assembly 09B (cannon B)

step 6



Prepare parts 09B-08, 09B-09, spring and cannon elevation mechanism for mounting in the turret.

step 7



Prepare part 09B-10 and two M2x6mm screws for mounting in the turret.

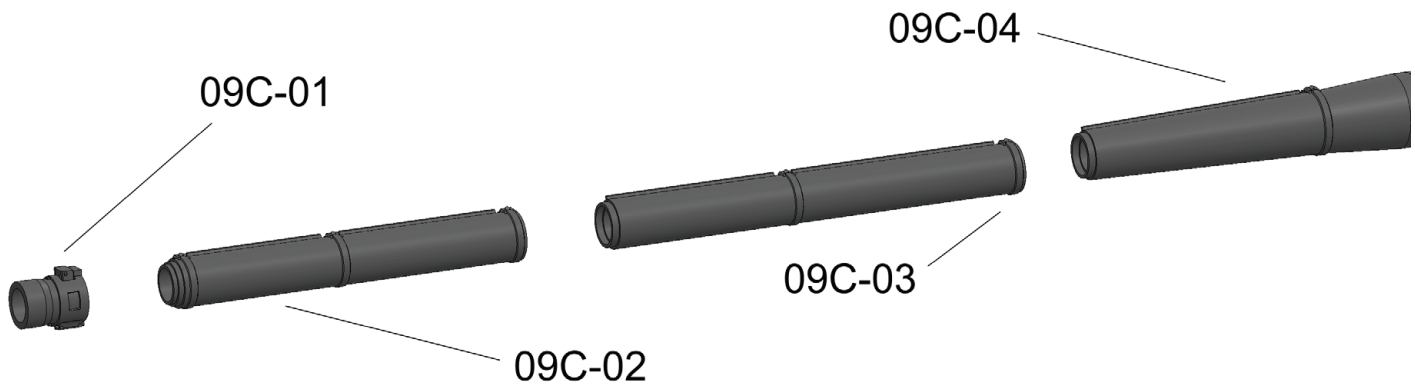
Assembly 09C (cannon C)



AMOUNT:	1
PRINTED PARTS:	09C-01 (1x), 09C-02 (1x), 09C-03 (1x), 09C-04 (1x), 09C-05 (1x), 09C-06 (1x), 09C-07 (2x), 09C-08 (1x), 09C-09 (1x),
OPTIONAL PRINTED PARTS:	09C-02_NO_BASE, 09C-03_NO_BASE, 09C-04_NO_BASE.
NON-PRINTED PARTS:	M2x6 screw (2x), MR117ZZ bearing (2x), MATO®, Heng-Long®, Torro® or compatible recoil unit, MATO®, Heng-Long®, Torro® or compatible gun elevatin unit and spring.
OPTIONAL NON-PRINTED PARTS:	

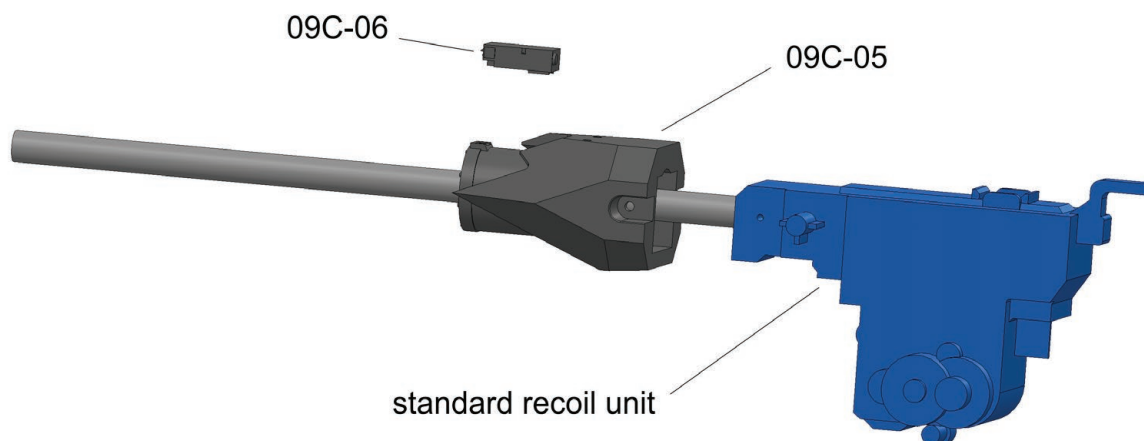
Assembly 09C (cannon C)

step 1



Glue parts 09C-01, 09C-02, 09C-03 and 09C-04.

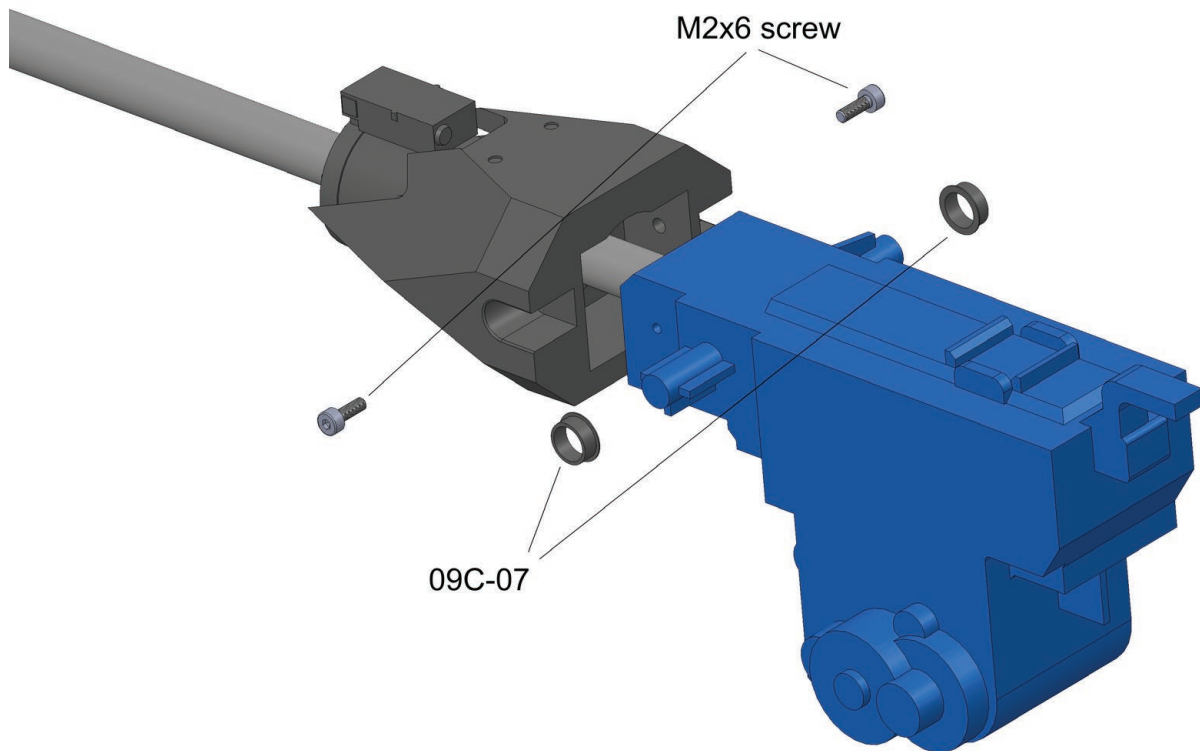
step 2



Glue parts 09C-05 and 09C-06 together.
Slide the recoil unit into the assembly.

Assembly 09C (cannon C)

step 3



Secure the recoil unit with M2x6mm screws.
Fit parts 09C-07 onto the recoil unit.

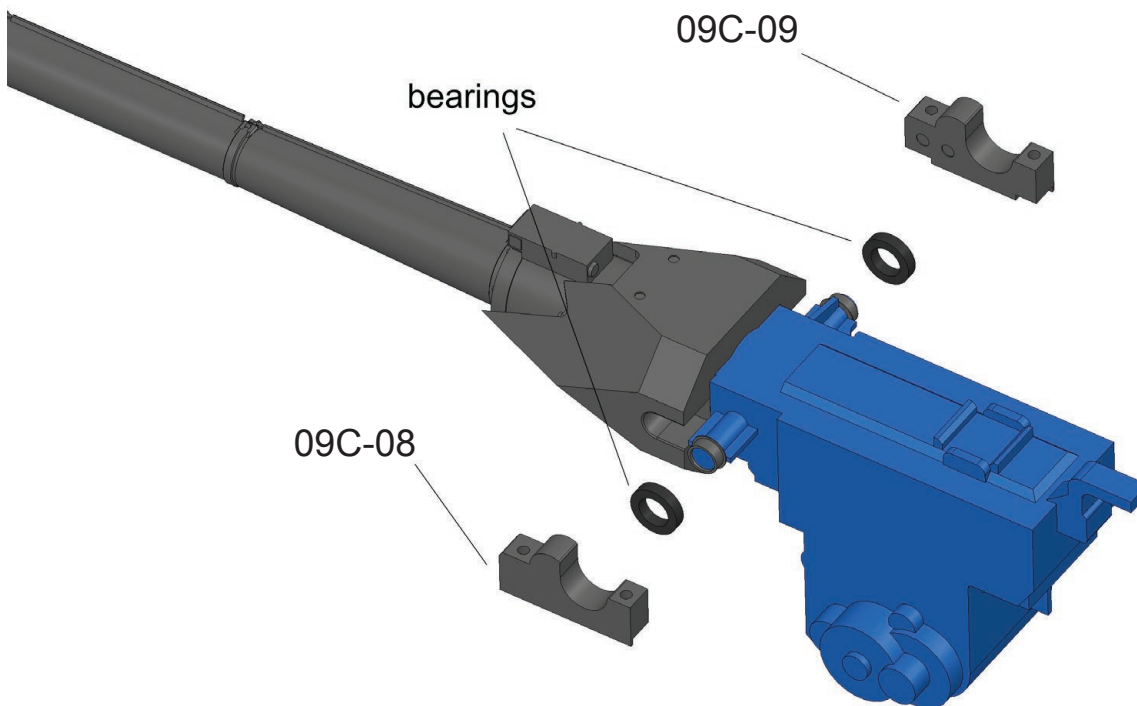
step 4



Place the assembly of parts 09C-01 to 09C-04 on the recoil unit.
The cannon must be held firmly on the aluminium insert of the recoil unit.

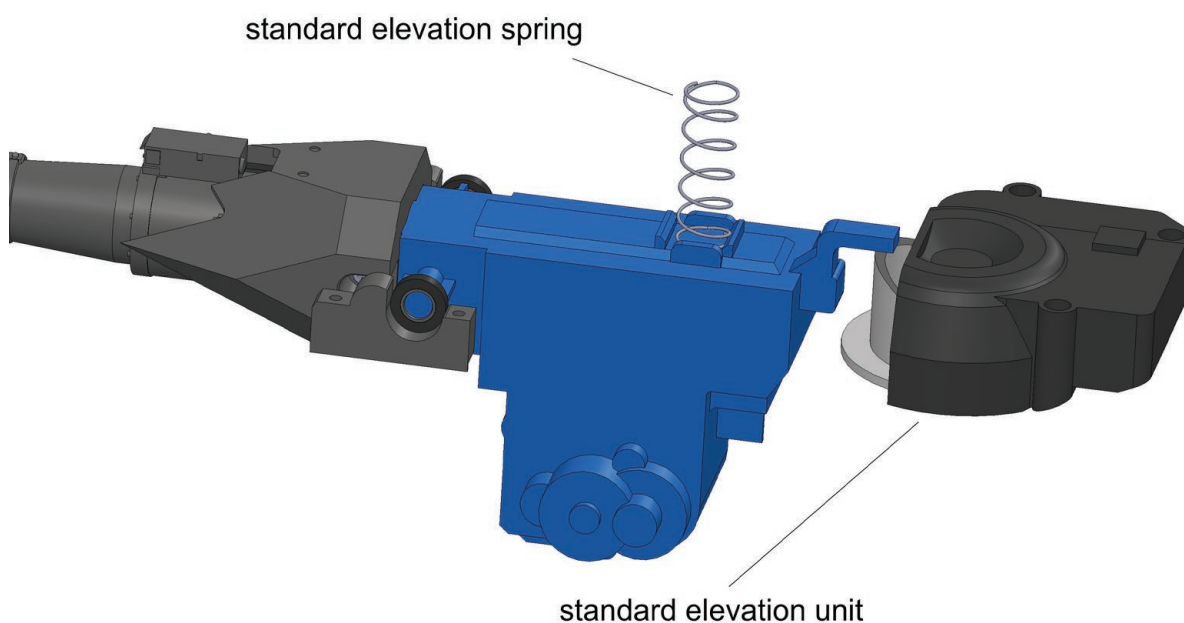
Assembly 09C (cannon C)

step 5



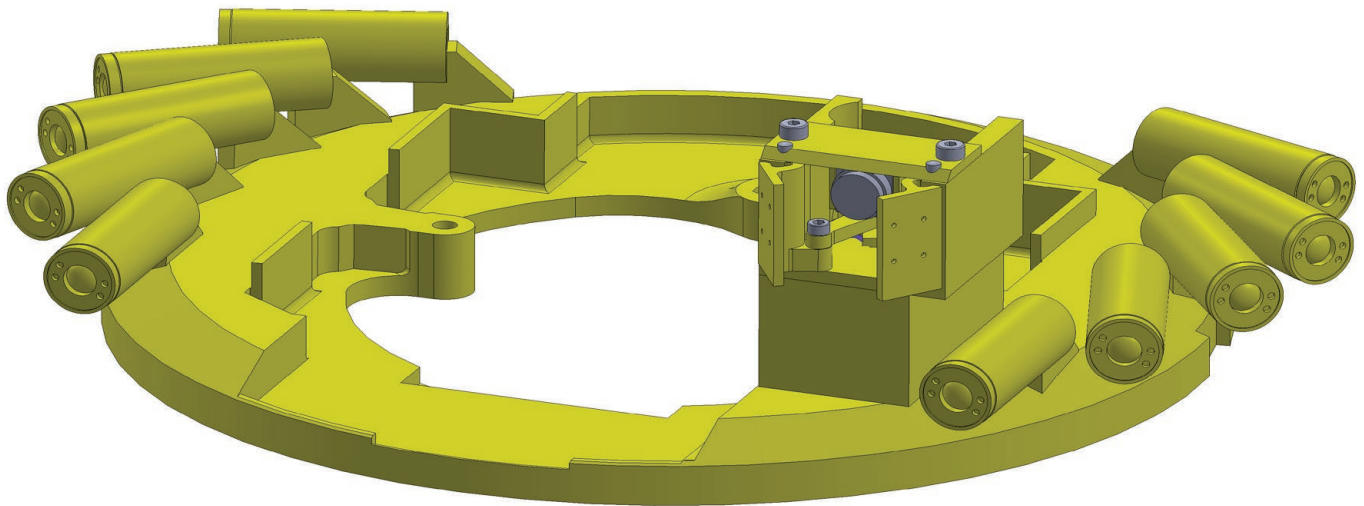
Install the MR117ZZ bearings and prepare parts 09C-08 and 09C-09 for mounting in the turret.

step 6



Prepare the cannon elevation unit and spring for mounting in the turret.

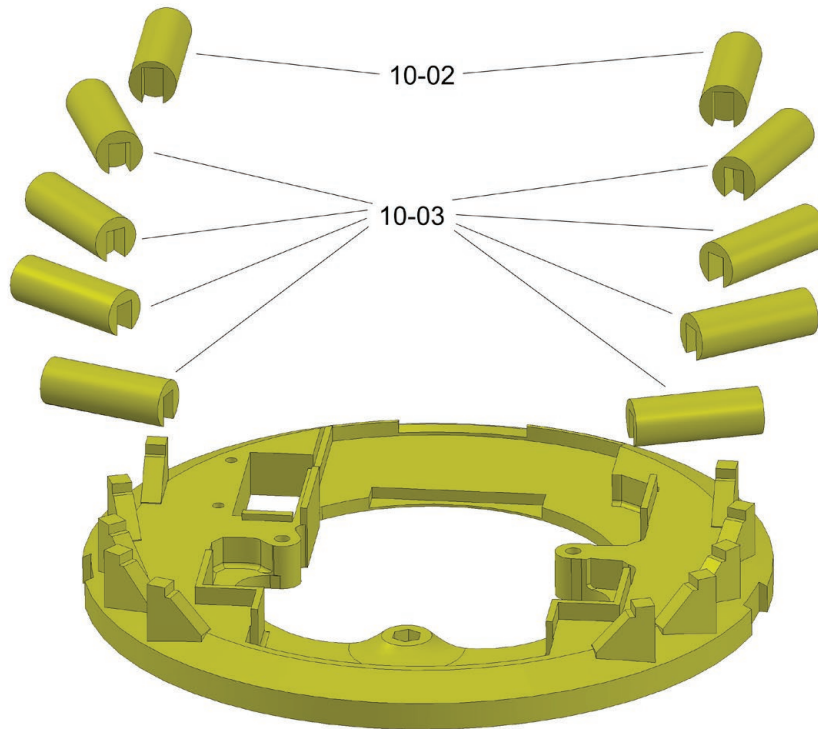
Assembly 10 (turret base)



AMOUNT:	1
PRINTED PARTS:	10-01 (1x), 10-02 (2x), 10-03 (8x), 10-04 (10x), 10-05 (1x), 10-06 (1x), 10-07 (2x), 10-08 (1x), 10-09 (1x), 10-10 (1x), 10-11 (1x).
OPTIONAL PRINTED PARTS:	10-08_alt (1x), 10-09_alt (1x), 10-10_alt (1x).
NON-PRINTED PARTS:	M1,6x4 screw (1x), M1,6x5 screw (1x), M1,6x10 screw (1x), M2x8 screw (2x), M2x10 screw (4x), M2 nut (4x), 2x18mm pin (2x), MR117ZZ bearing (2x), TOWERPRO® SG90 9g SERVO, FPV microcamera with 8x8mm size
OPTIONAL NON-PRINTED PARTS:	FPV microcamera with 14x14mm size (CADDX Ant Lite)

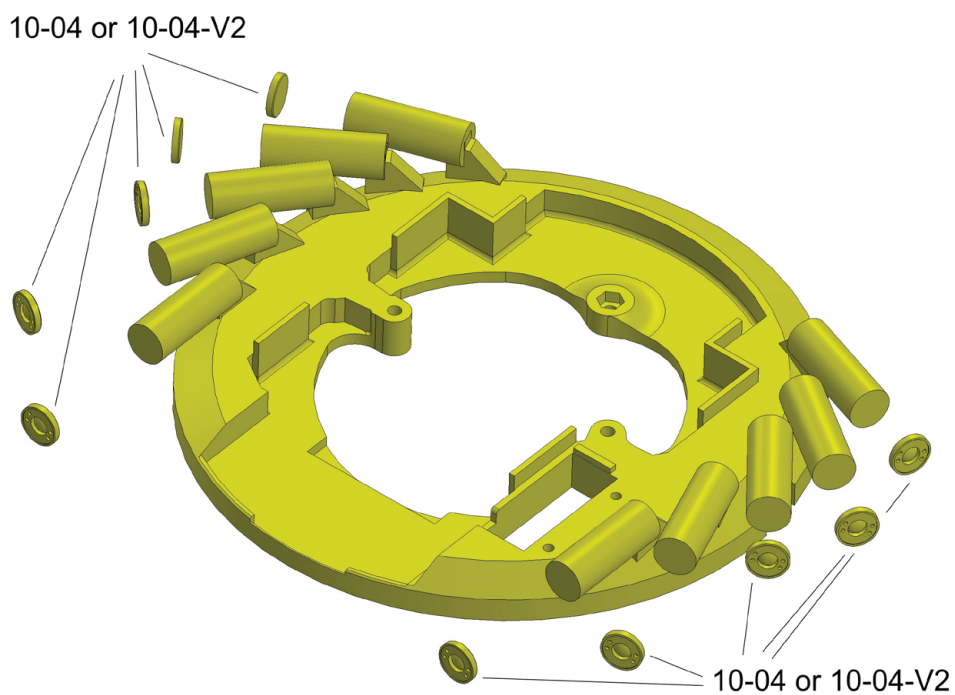
Assembly 10 (turret base)

step 1



Glue parts 10-02 and 10-03 to part 10-01.

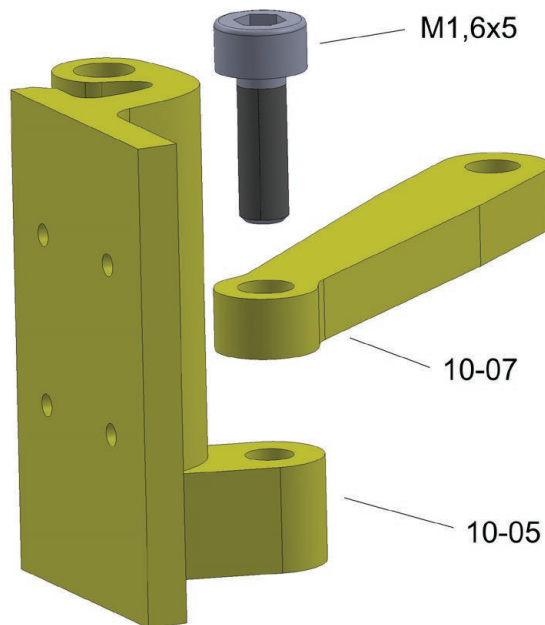
step 2



Use the part of your choice. Glue parts 10-04 or parts 10-04_ALT.

Assembly 10 (turret base)

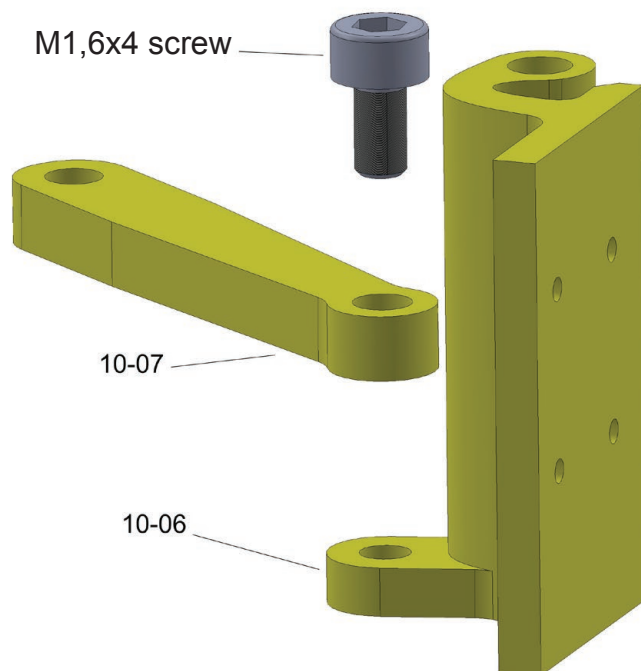
step 3



Connect part 10-05 to part 10-07 with M1,6x5mm screw.

Turn the screw only to the bottom of part 10-07. It must not stick out from the bottom.
The hole in part 10-07 must be free. Check the smoothness of rotation of part 10-07.

step 4

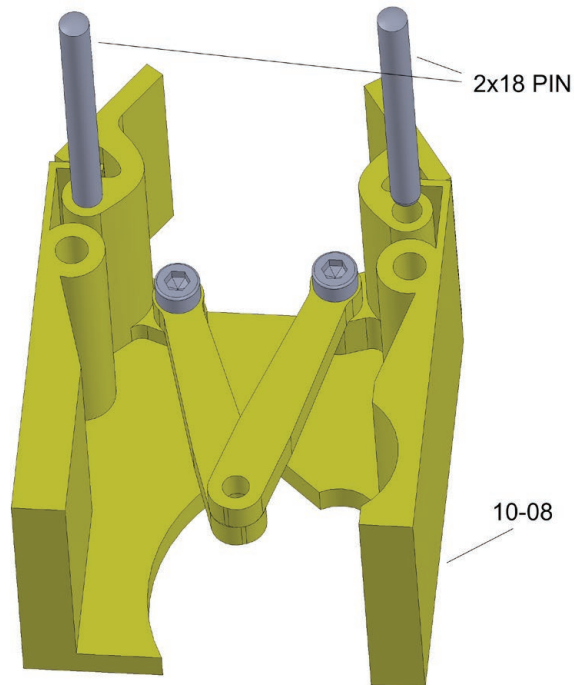


Connect part 10-06 to part 10-07 with M1,6x4mm screw.

Turn the screw only to the bottom of part 10-06. It must not stick out from the bottom.
The hole in part 10-07 must be free. Check the smoothness of rotation of part 10-07.

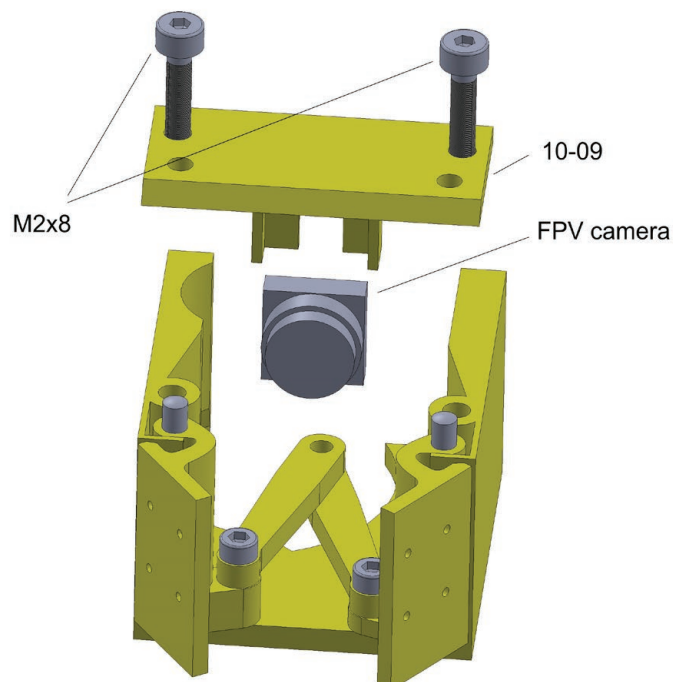
Assembly 10 (turret base)

step 5



Insert parts 10-05 and 10-06 into part 10-08.
Connect the parts with two 2x18mm pins. The parts must rotate smoothly.

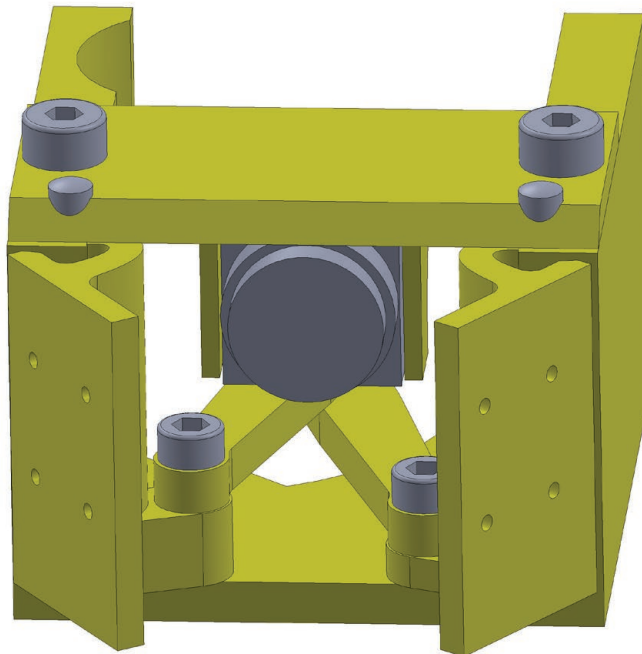
step 6



Fix parts 10-05 and 10-06 with part 10-09 and two M2x8mm screws.
In part 10-09 there is a mounting groove for the FPV camera.

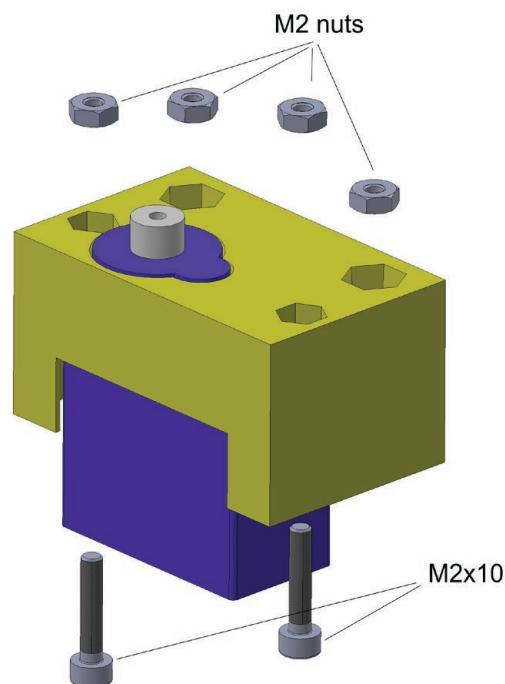
Assembly 10 (turret base)

step 6 detail



Assembly detail of part 10-09.

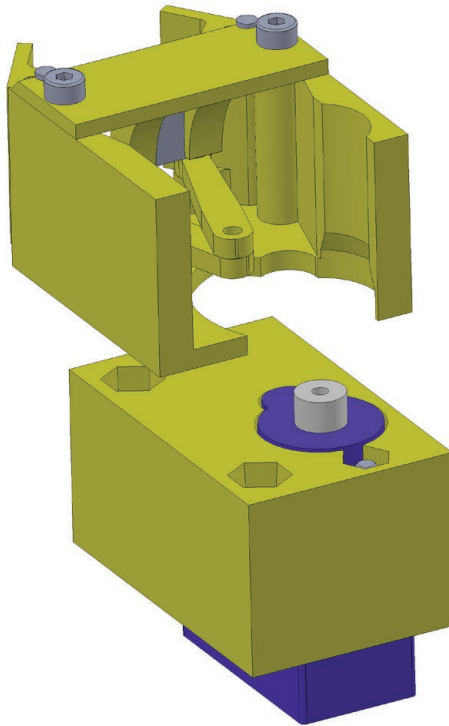
step 7



Install the servomotor into part 10-10.
Install the 4 M2 nuts and secure the servomotor with the two M2x10mm screws.
One of the nuts will not be insertable later.

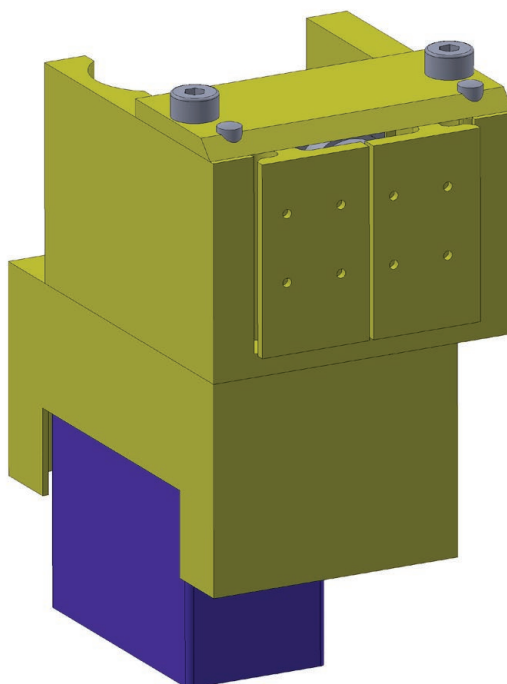
Assembly 10 (turret base)

step 8



Glue the units of parts 10-08 and 10-10 together.

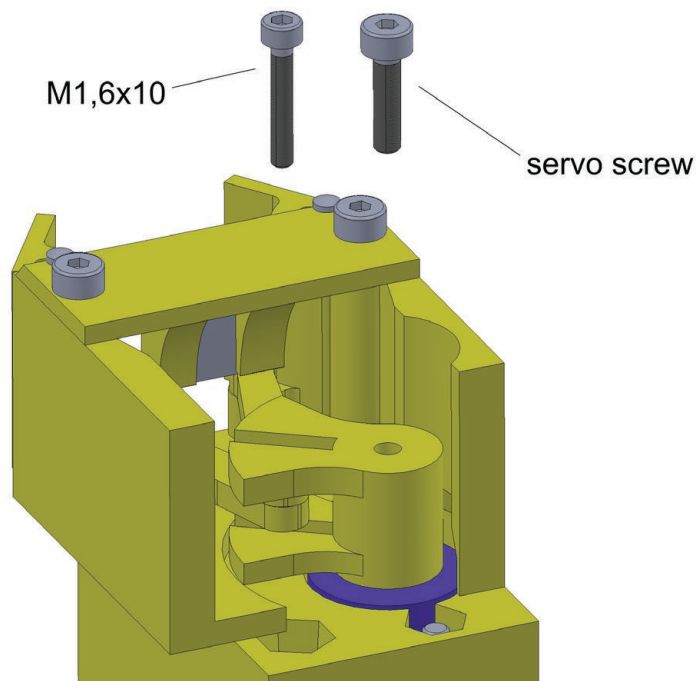
step 8 detail



Detail of the correct position of parts 10-08 and 10-10. Align the edges of the parts.

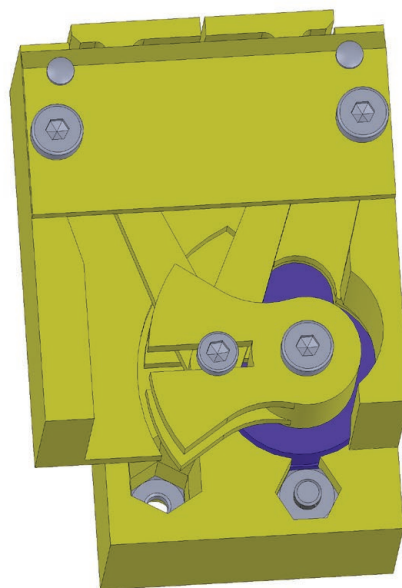
Assembly 10 (turret base)

step 9



Attach part 10-11 to the servomotor with the screw supplied with the servo.
Connect parts 10-07 with the M1,6x10mm screw.

step 9 detail



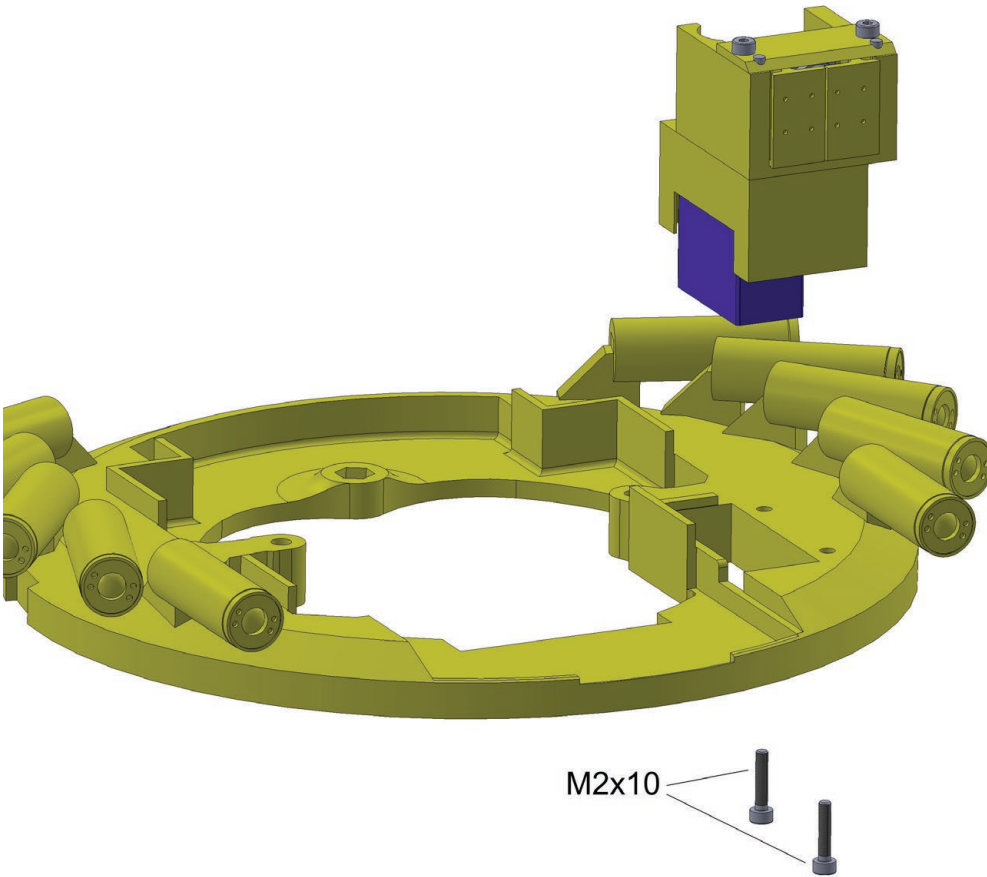
Correct position of part 10-11 in the servo center position. In the servo center position, the groove is parallel to the door. The door is closed in the neutral position of the servo.

Make sure to operate the servo in the correct direction when operating the servo.

**If the servomotor will perform a counterclockwise movement,
the servomotor or Block 10 may be damaged!!!**

Assembly 10 (turret base)

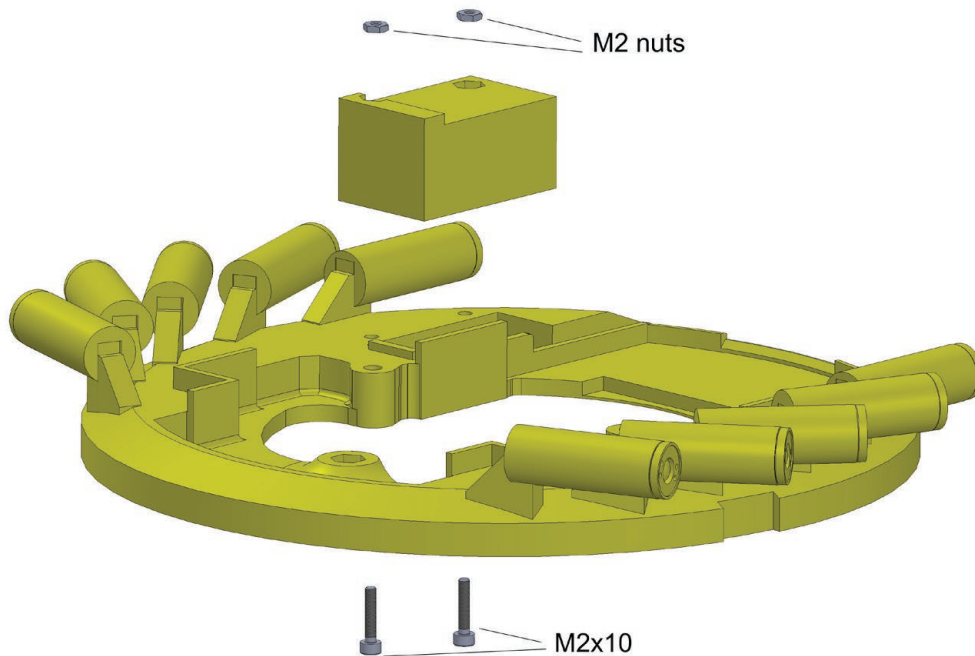
step 9



Attach the FPV camera assembly to the turret ring assembly using two M2x10mm screws.

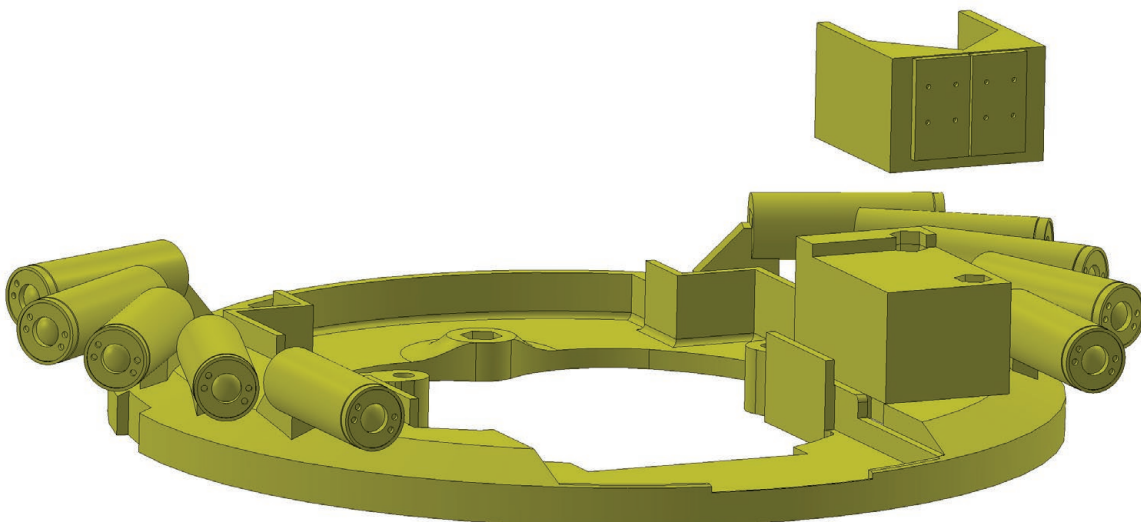
Assembly 10 (turret base)

step 1 alternative



For the version without functional door and camera, attach the 10-10_alt part with two M2x10mm screws on the 10-01 part. You can replace the whole assembly with the FPV camera assembly at any time.

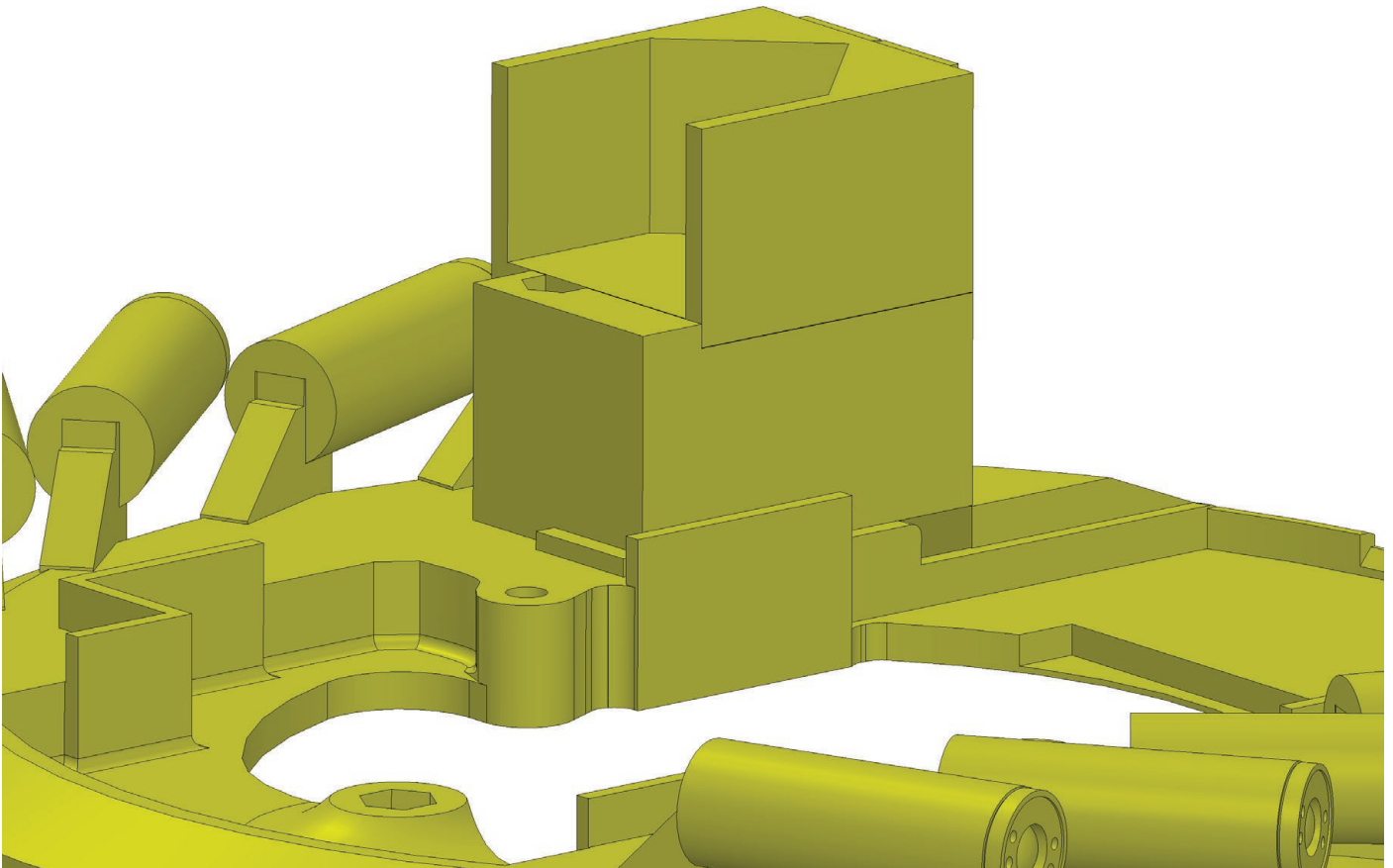
step 2 alternative



Glue part 10-08_alt. Align the edges of the parts.

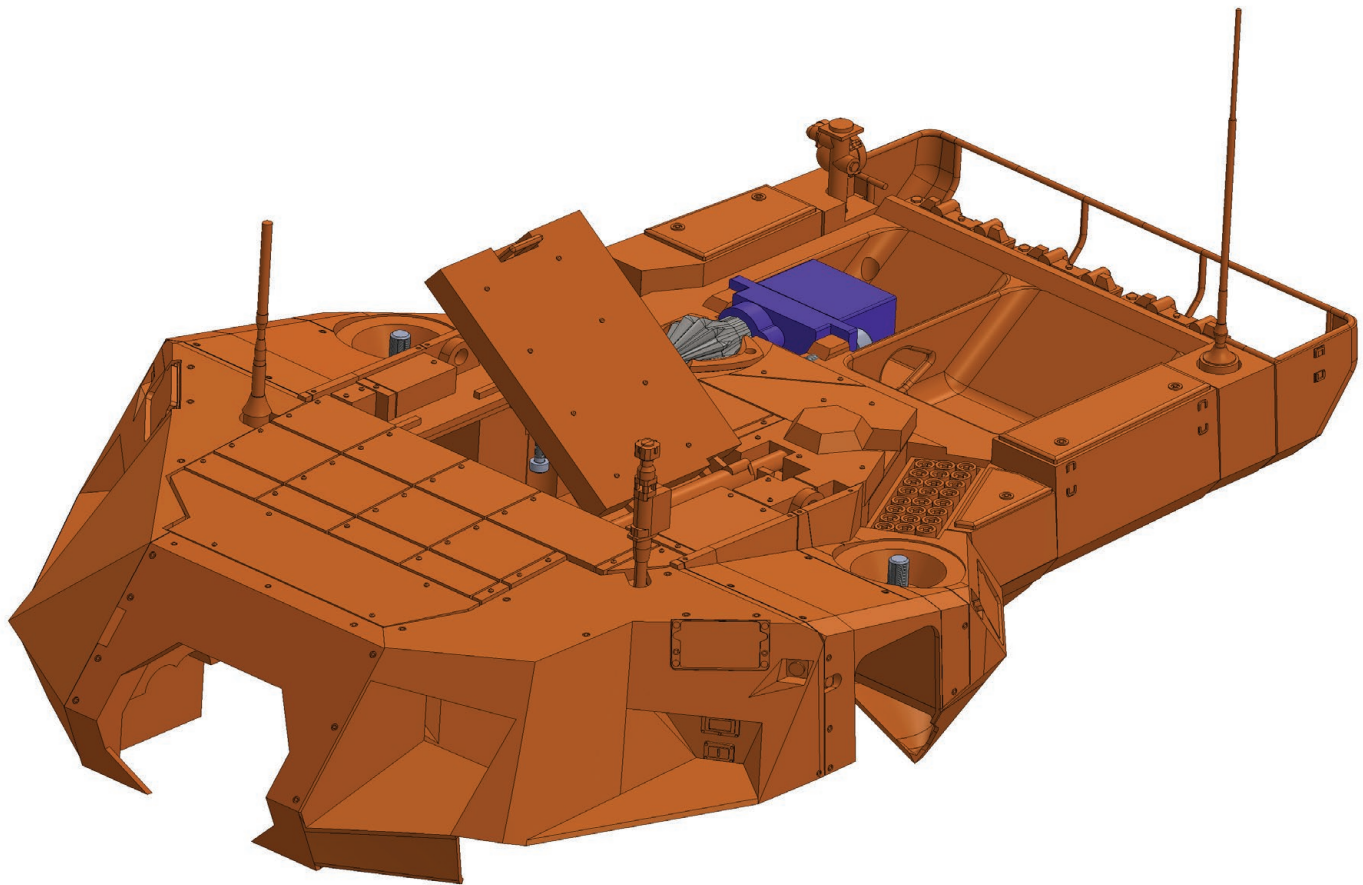
Assembly 10 (turret base)

step 3 alternative



Detail of the correct position of parts 10-08_alt and 10-10_alt.
The parts are aligned using the groove and flat surfaces on the parts.

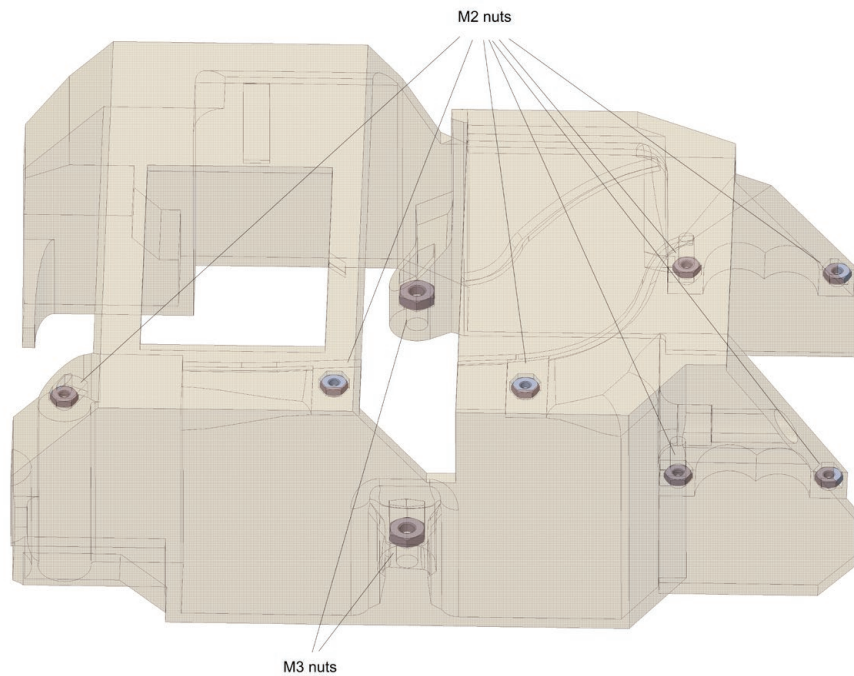
Assembly 11 (turret)



AMOUNT:	1
PRINTED PARTS:	11-01 (1x), 11-02 (1x), 11-03 (1x), 11-04 (1x), 11-05 (1x), 11-06 (1x), 11-07 (1x), 11-08 (1x), 11-09 (2x), 11-10 (1x), 11-11 (1x), 11-12 (1x), 11-13 (1x), 11-14 (1x), 11-15 (1x), 11-16 (1x), 11-17 (1x), 11-18 (1x), 11-19 (1x), 11-20 (1x), 11-21 (3x), 11-22 (1x), 11-23 (1x), 11-24 (1x), 11-25 (1x), 11-26 (1x), 11-27 (1x), 11-28 (4x), 11-29 (1x), 11-30 (1x), 11-31 (1x), 11-32 (1x), 11-33 (1x), 11-34 (1x), 11-35 (1x), 11-36 (1x), 11-37 (1x), 11-38 (1x), 11-39 (1x), 11-40 (1x), 11-41 (1x), 11-42 (1x), 11-43 (1x), 11-44 (1x), 11-45 (1x), 11-46 (1x), 11-47 (1x), 11-48 (1x), 11-49 (1x), 11-50 (2x), 11-51 (1x), 11-52 (1x), 11-53 (2x), 11-54 (1x), 11-55 (1x).
OPTIONAL PRINTED PARTS:	11-01_NO_BASE (1x), 11-02_NO_BASE (1x), 11-03_SLA (1x), 11-07_SLA (1x), 11-10_SLA (1x), 11-22_NO_BASE (1x), 11-24_NO_BASE (1x), 11-29_NO_BASE (1x), 11-30_NO_BASE (1x), 11-38_SLA (1x), 11-46_SLA (1x), 11-48_SLA (1x), 11-51_SLA (1x).
NON-PRINTED PARTS:	M2x6 screw (2x), M2x8 screw (2x), M3x25 screw (2x), M2 nut (12x), M3 nut (2x), 2x60mm pin TOWERPRO® FR360 9g SERVO
OPTIONAL NON-PRINTED PARTS:	5mm red LED light or IR emmitter diode

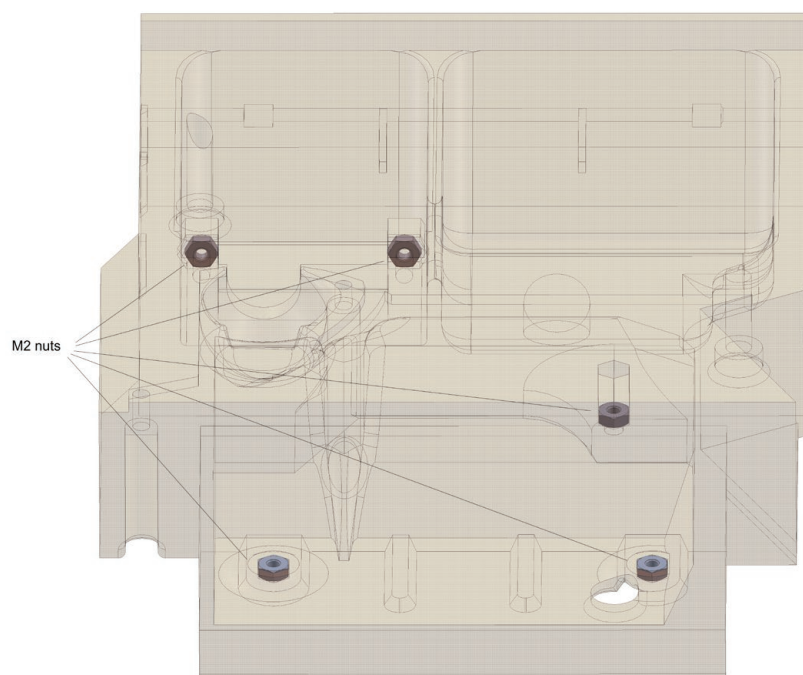
Assembly 11 (turret)

step 1



Insert 7 M2 nuts and two M3 nuts into part 11-01. The two M2 nuts on the top of the turret are particularly important. **There will be no possibility to insert them later.**

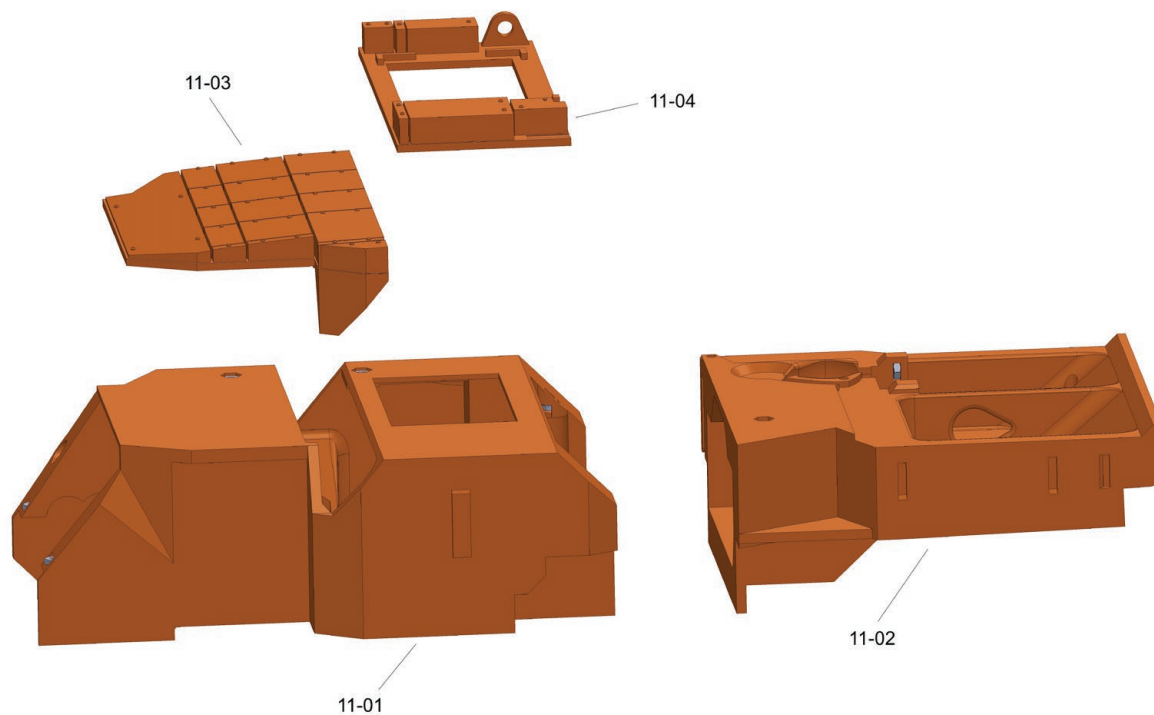
step 2



Insert 5 M2 nuts into part 11-02.

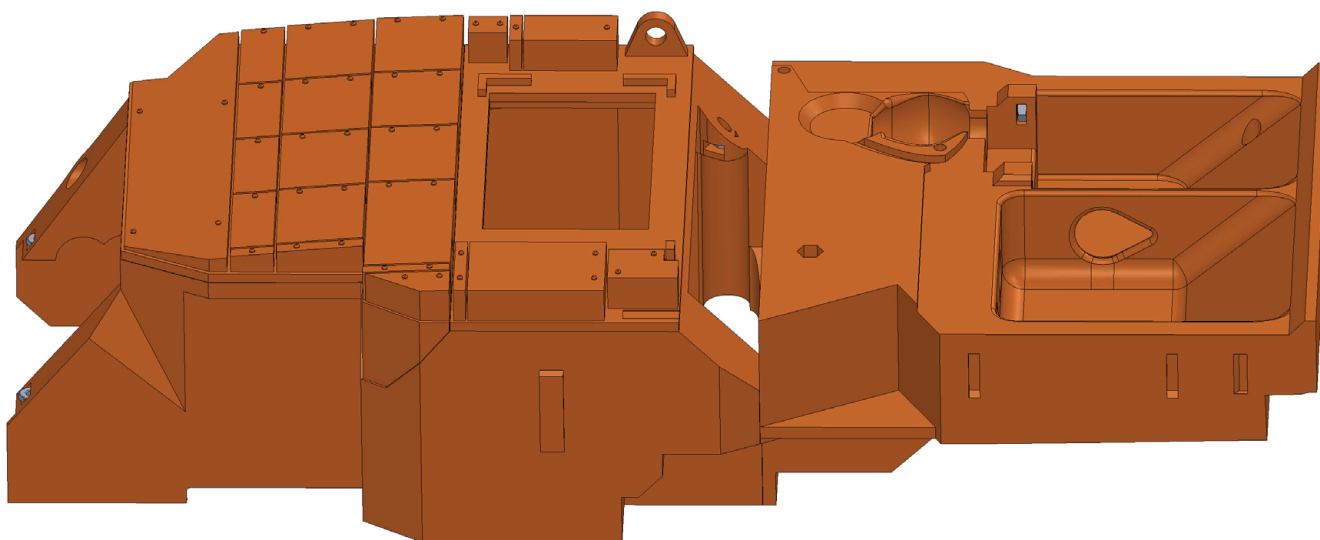
Assembly 11 (turret)

step 3



Glue parts 11-01, 11-02, 11-03 and 11-04.

step 3 detail



Correct position of parts 11-03 and 11-04.

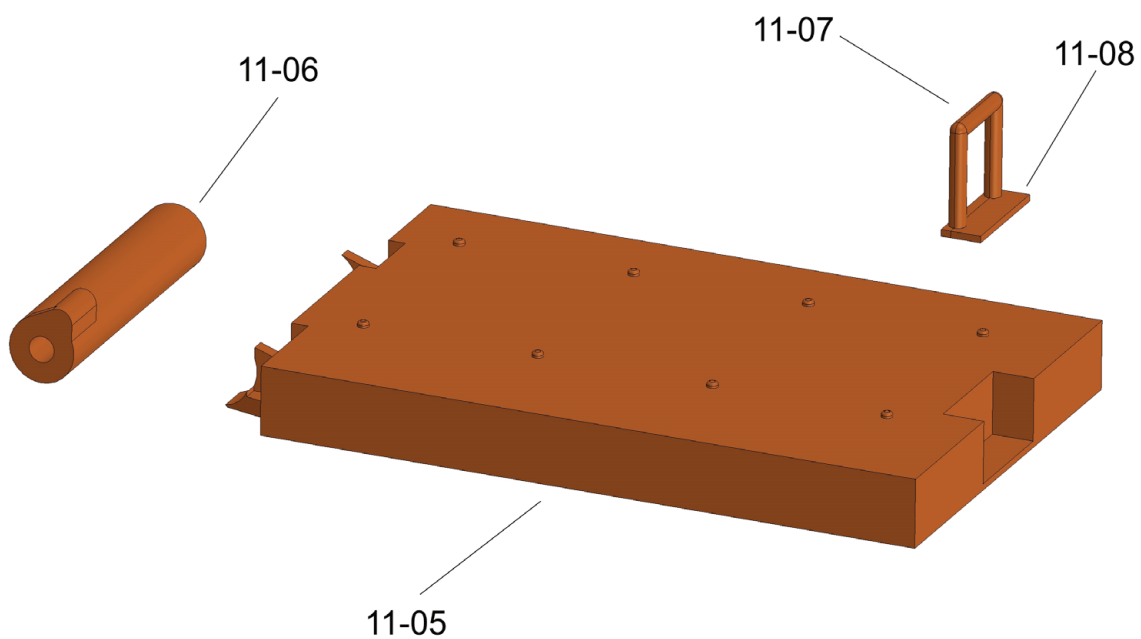
Assembly 11 (turret)

step 3 detail



Correct alignment of parts 11-01 and 11-02.

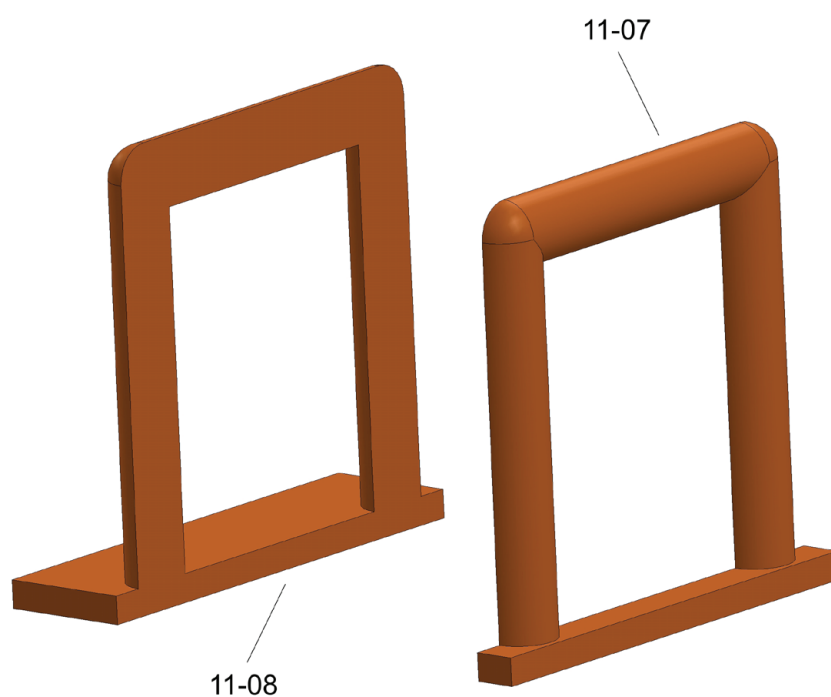
step 4



Glue parts 11-05, 11-06, 11-07 and 11-08.

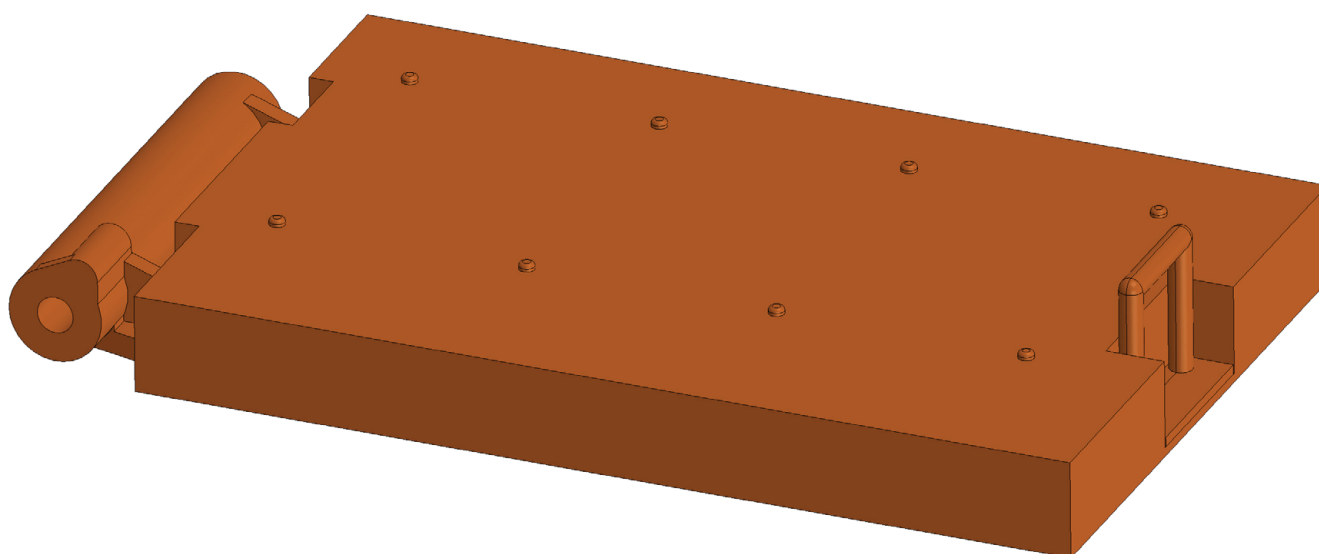
Assembly 11 (turret)

step 4 detail



Detail of assembly of parts 11-07 and 11-08.

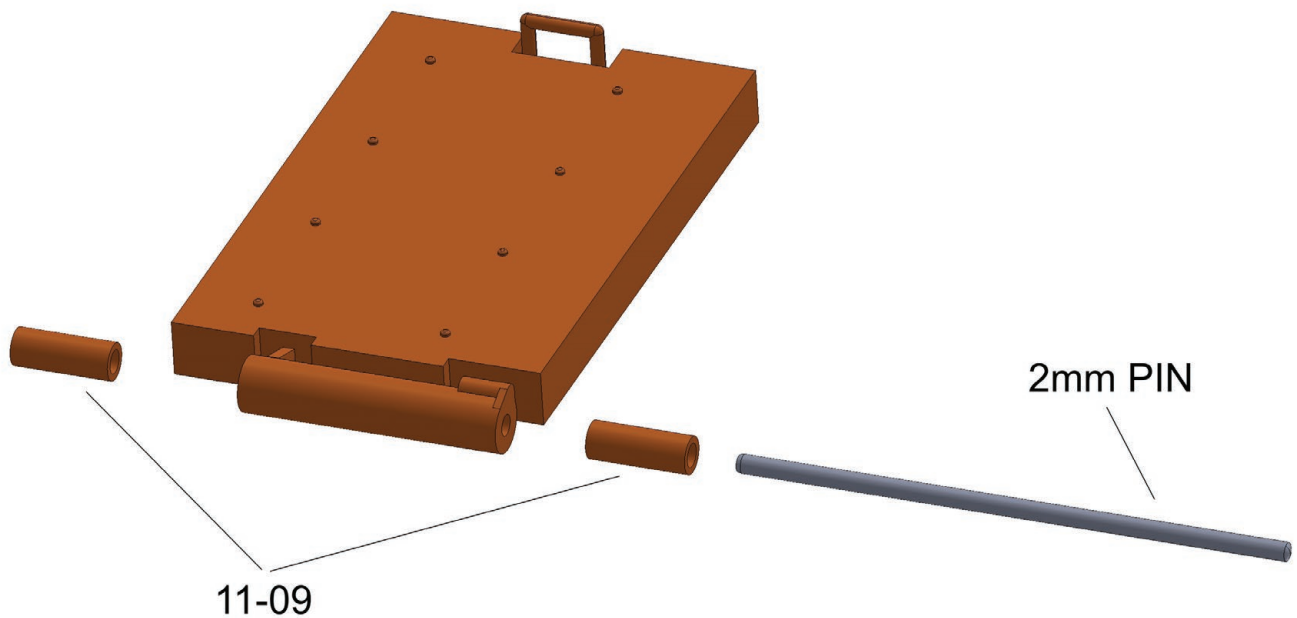
step 4 detail



Correct position of parts 11-05, 11-06, 11-07 and 11-08.

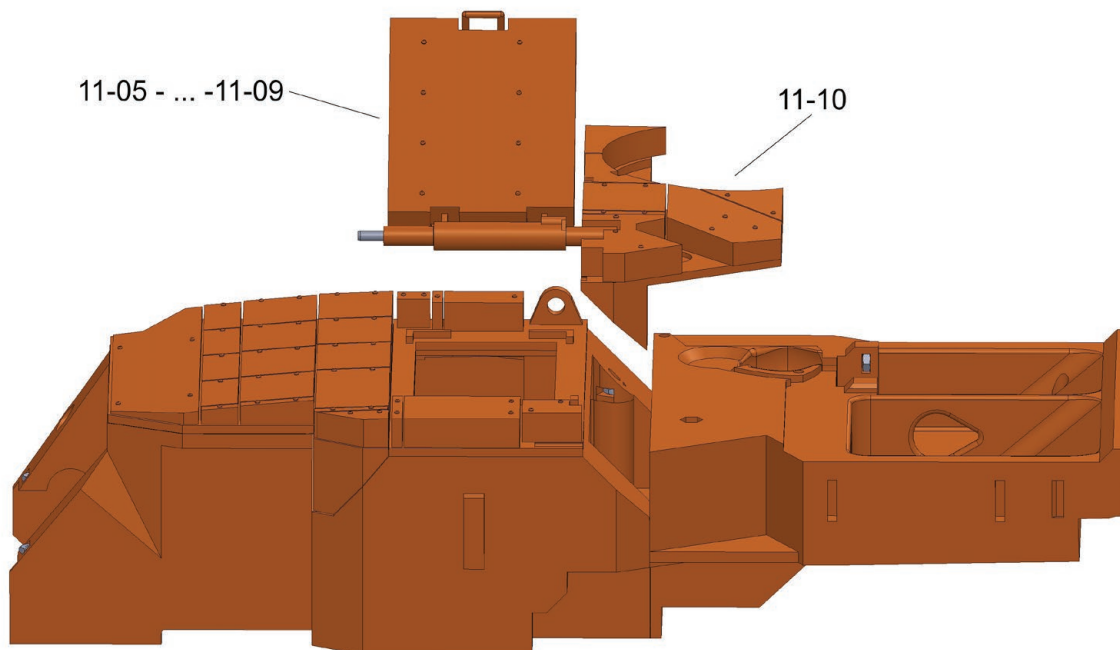
Assembly 11 (turret)

step 5



Insert the 2mm pin with a length of 60mm and attach parts 11-09.

step 6

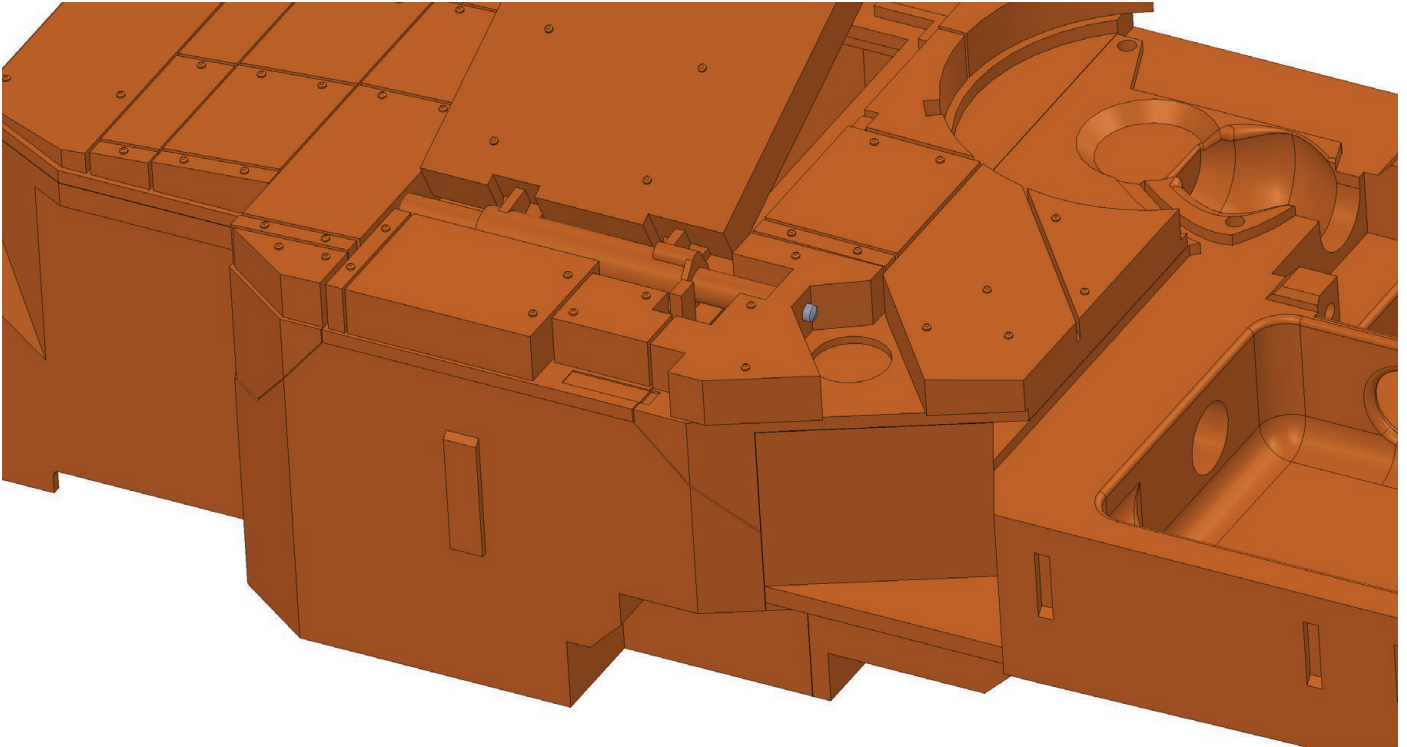


Glue the assembly of parts 11-05 to 11-09 together with part 11-10.
Test the assembly before gluing.

Check the hatch for proper movement. It will no longer be removable.

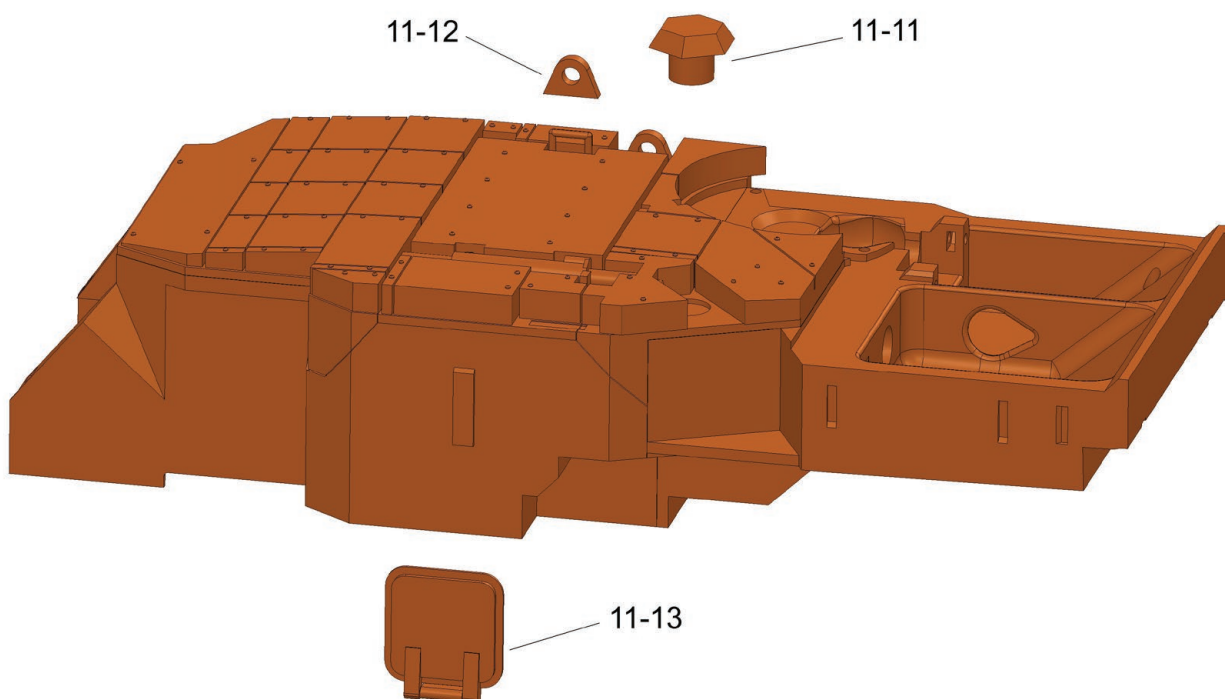
Assembly 11 (turret)

step 6 detail



Detail of the correct position of the assembly of parts 11-05 to 11-09 and part 11-10.

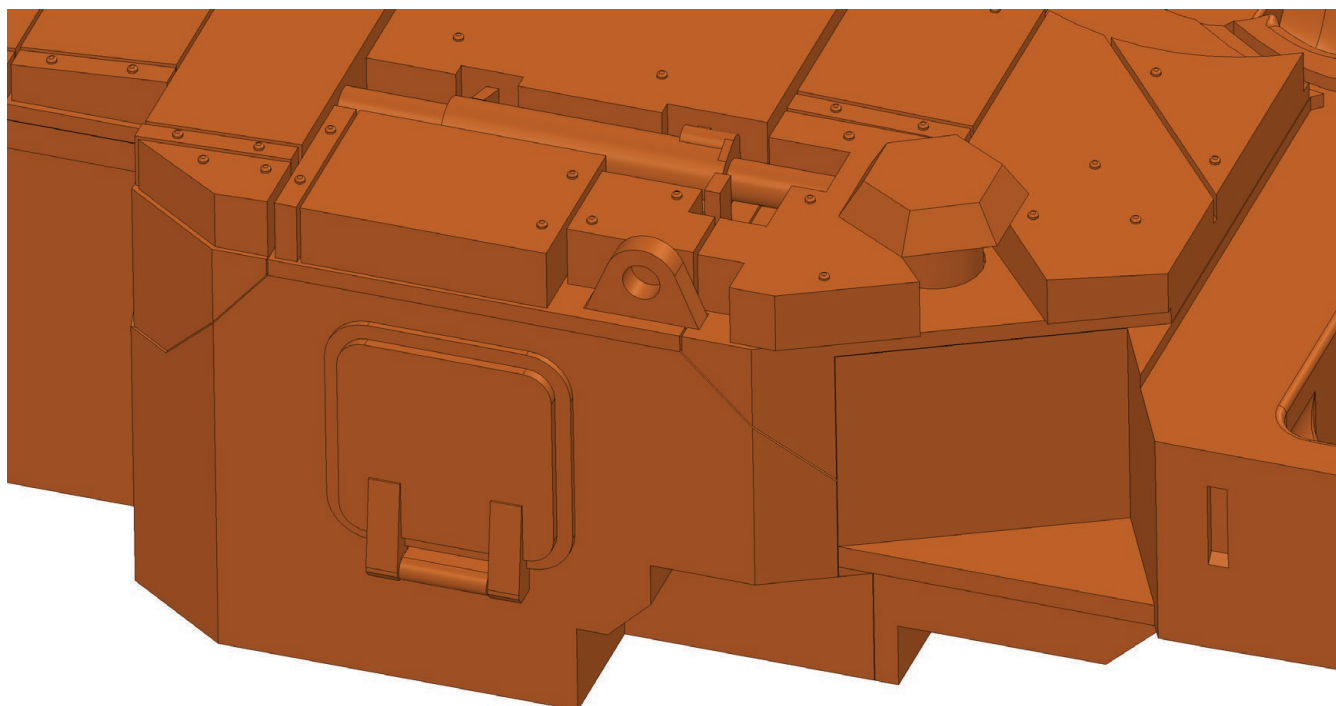
step 7



Glue parts 11-11, 11-12 and 11-13.

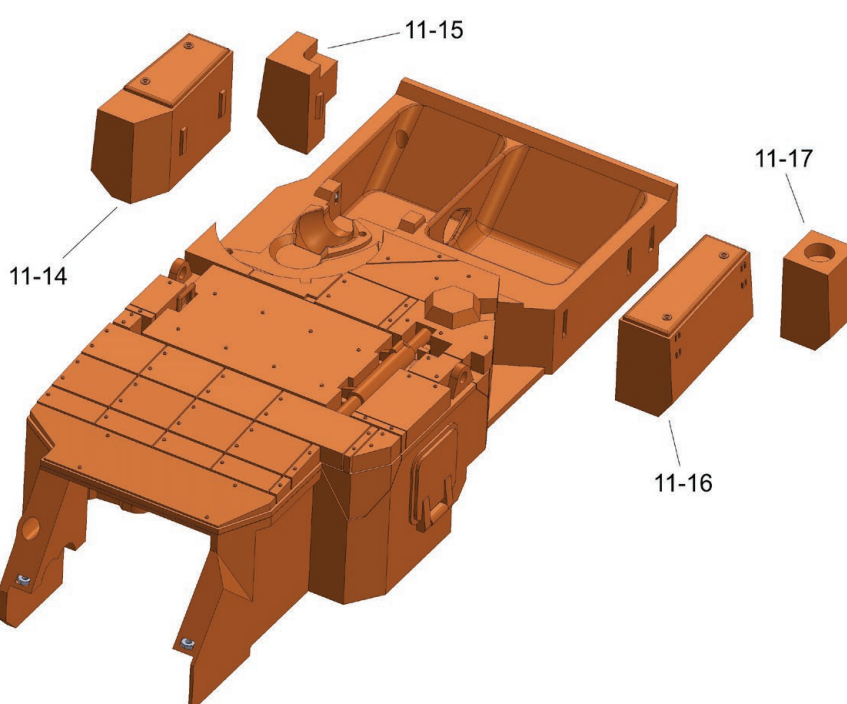
Assembly 11 (turret)

step 7 detail



Correct position of parts 11-11, 11-12 and 11-13.

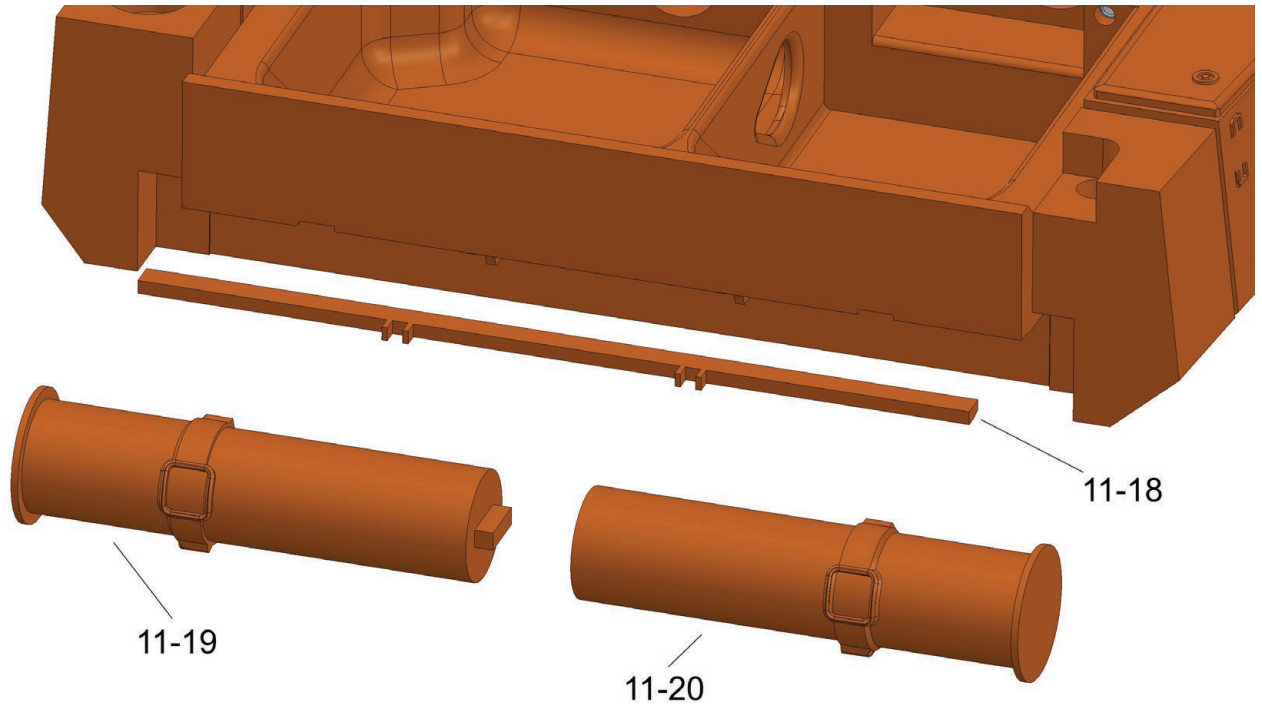
step 8



Glue parts 11-14, 11-15, 11-16 and 11-17.

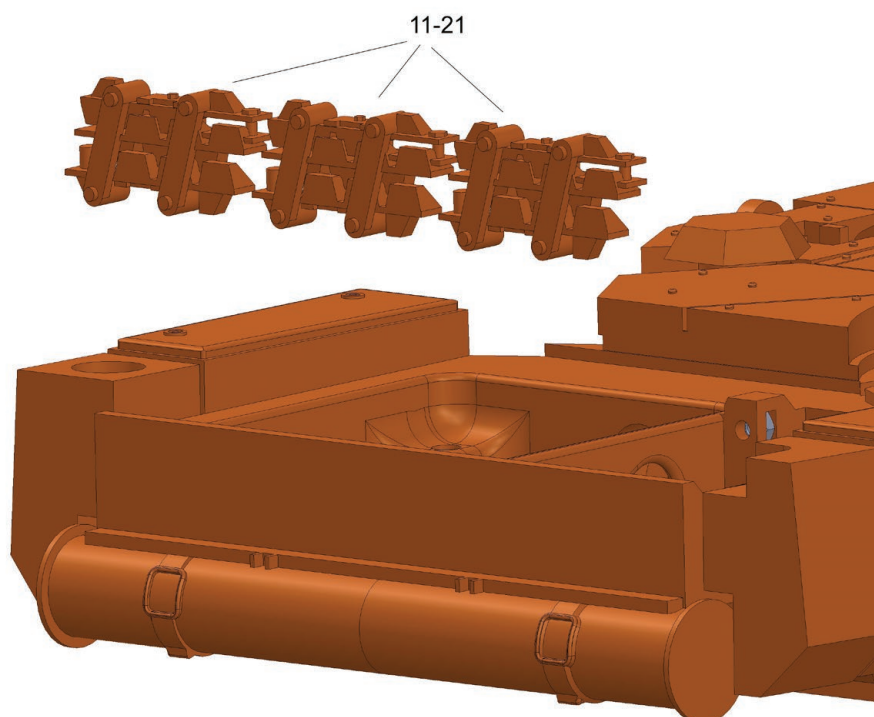
Assembly 11 (turret)

step 9



Glue parts 11-18. Glue parts 11-19 and 11-20 together and then glue them to the turret.

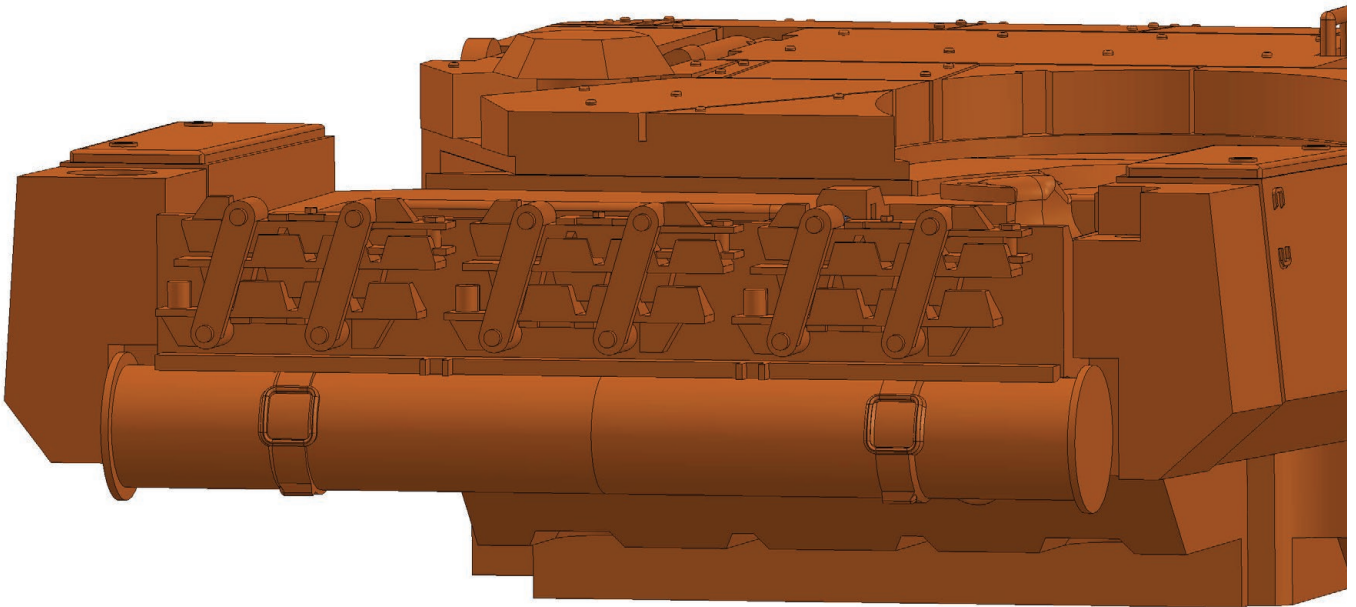
step 10



Glue the three parts 11-21.

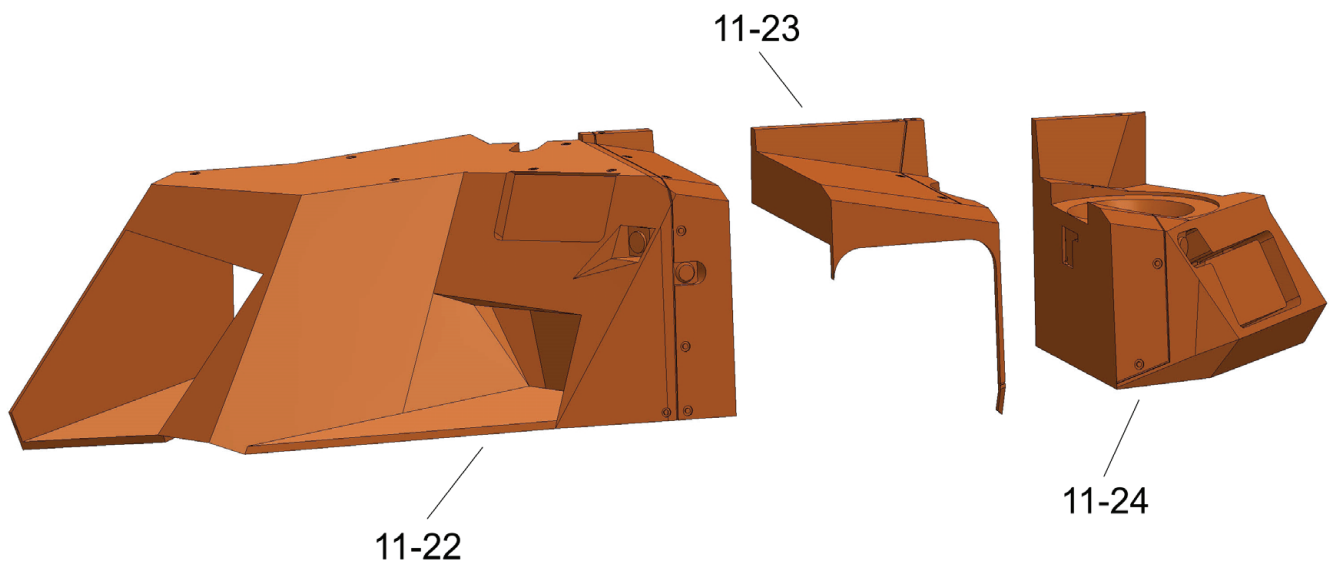
Assembly 11 (turret)

step 10 detail



Detail of the correct position of parts 11-18 to 11-21.

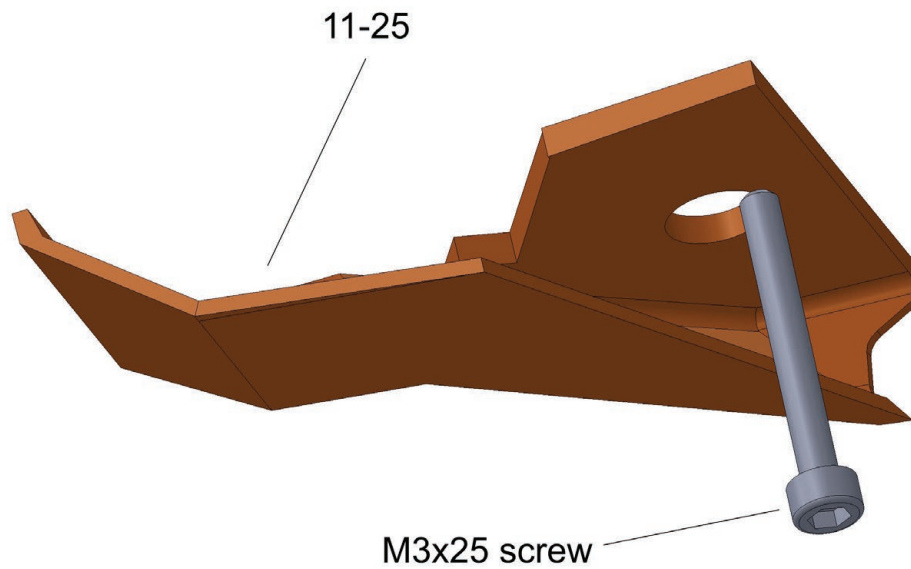
step 11



Glue together pieces 11-22, 11-23 and 11-24.

Assembly 11 (turret)

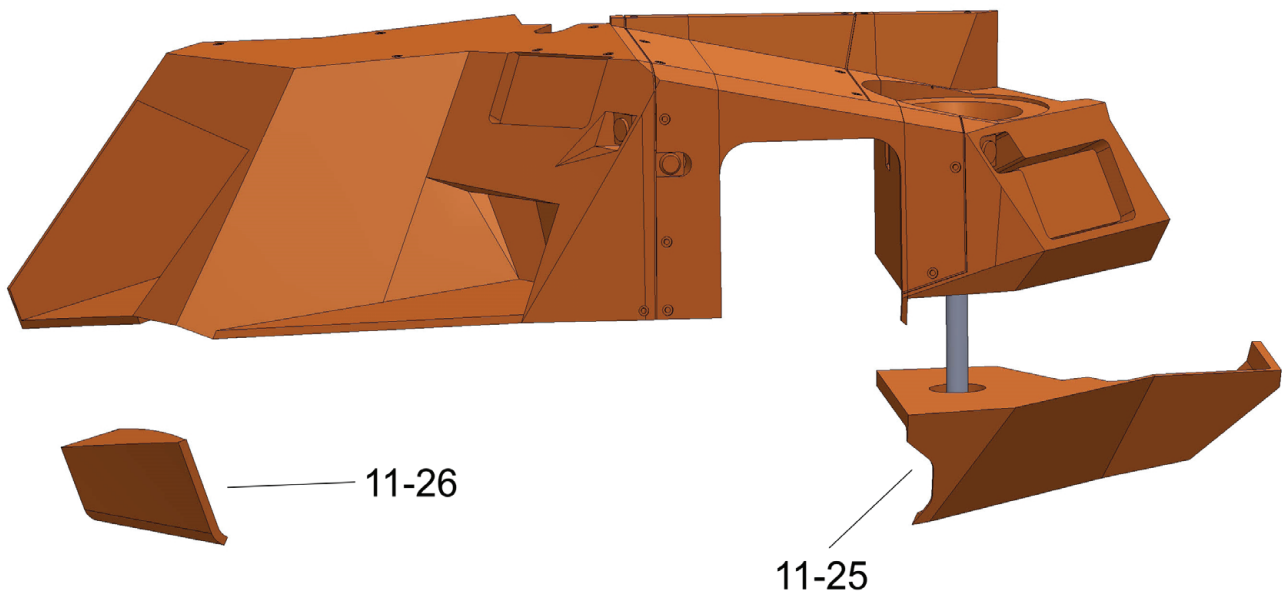
step 12



Insert the M3x25mm screw into part 11-25.

It is important to do this before gluing the part to the turret. Later it will be impossible.

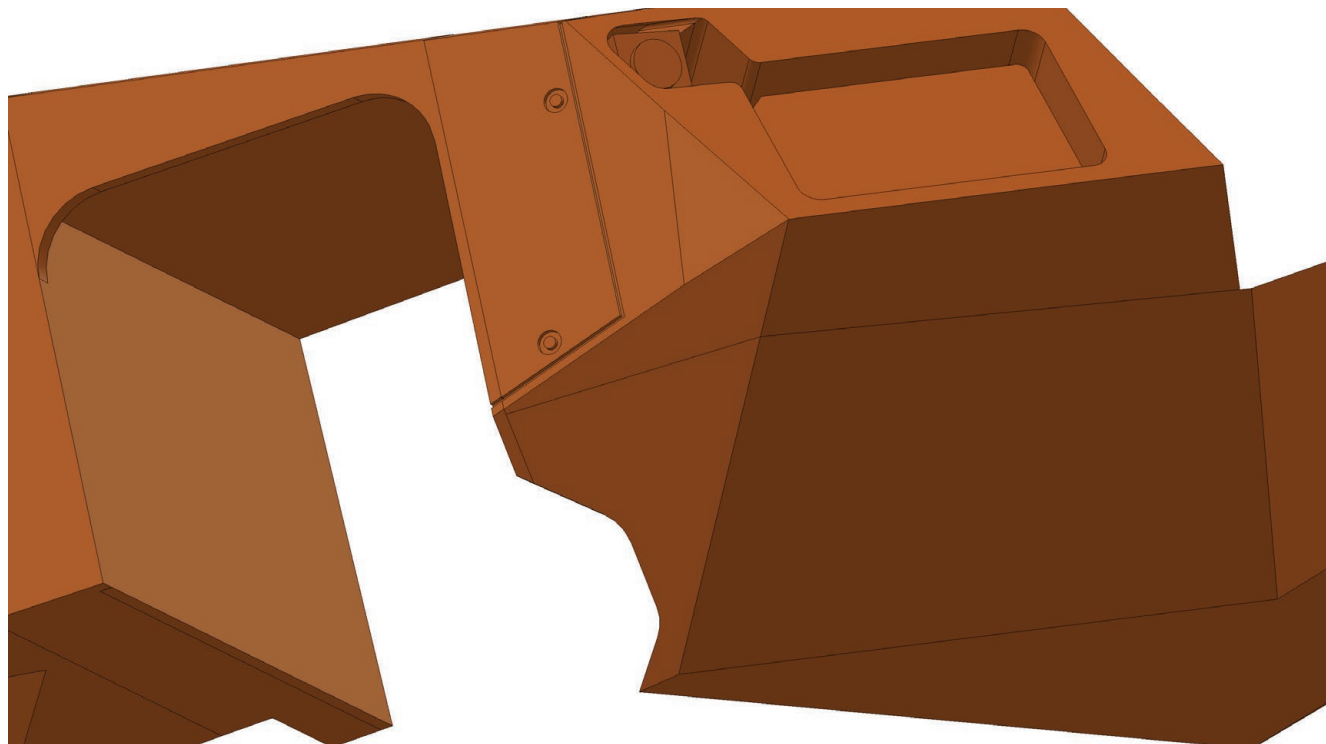
step 13



Glue parts 11-25 and 11-26.

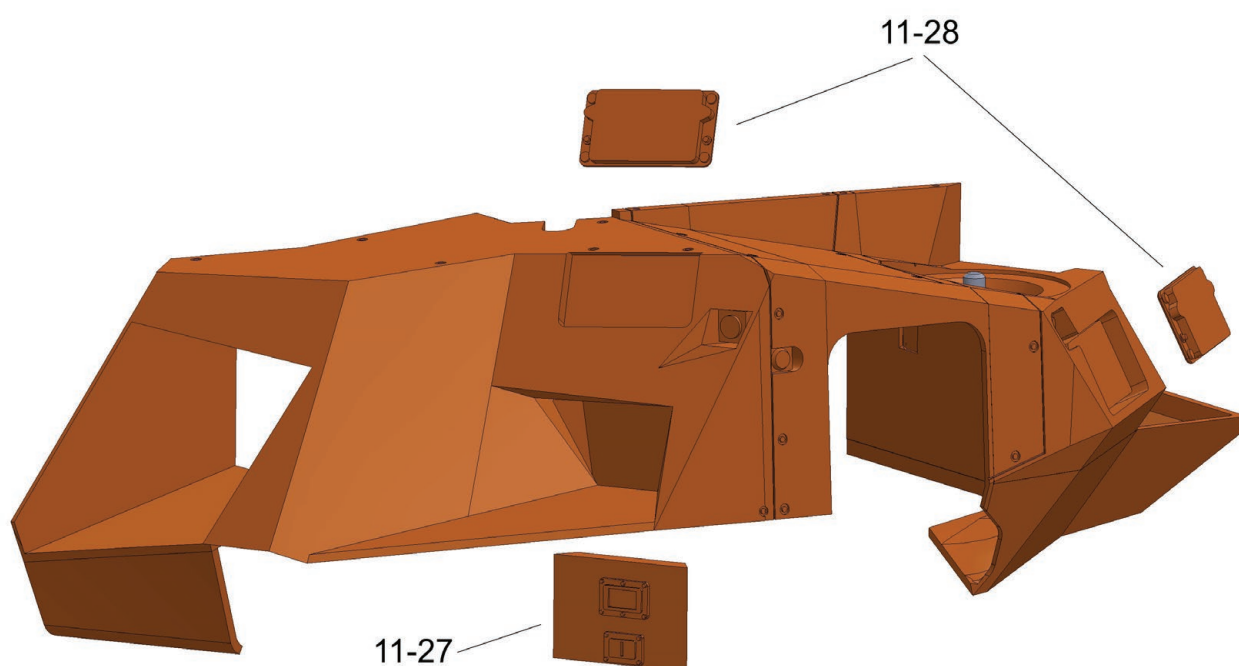
Assembly 11 (turret)

step 13 detail



Detail of the correct position of the part 11-25.

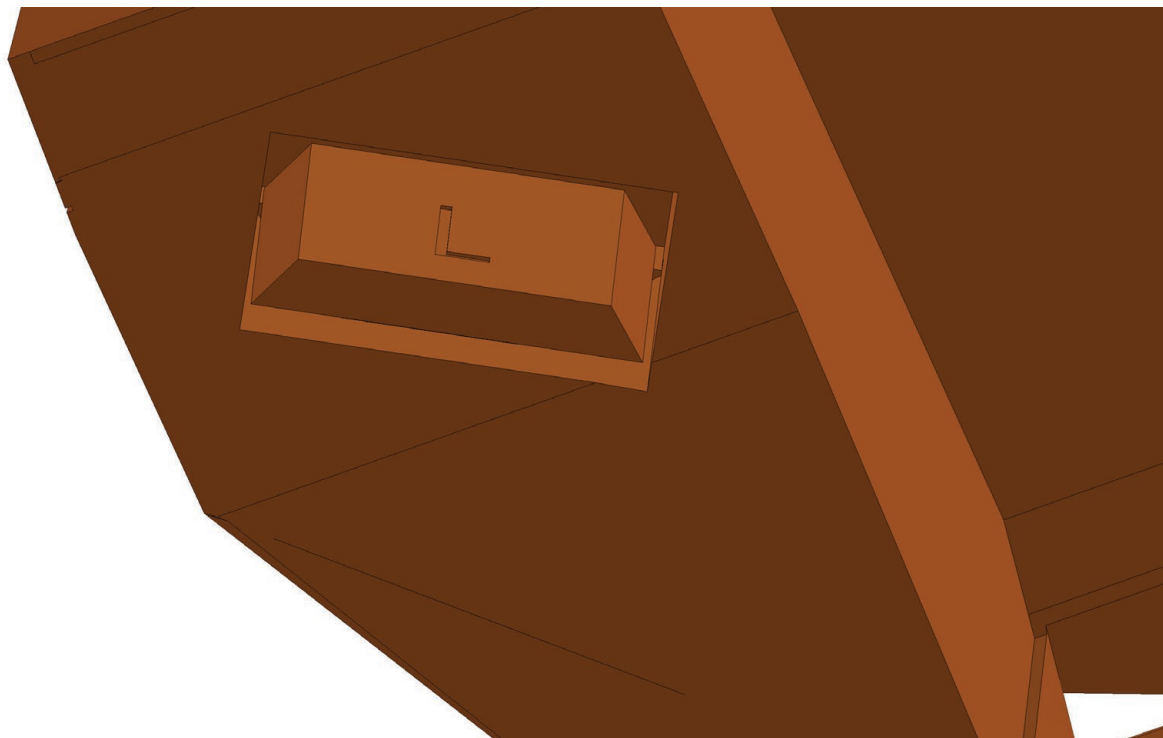
step 14



Glue parts 11-27 and 11-28.

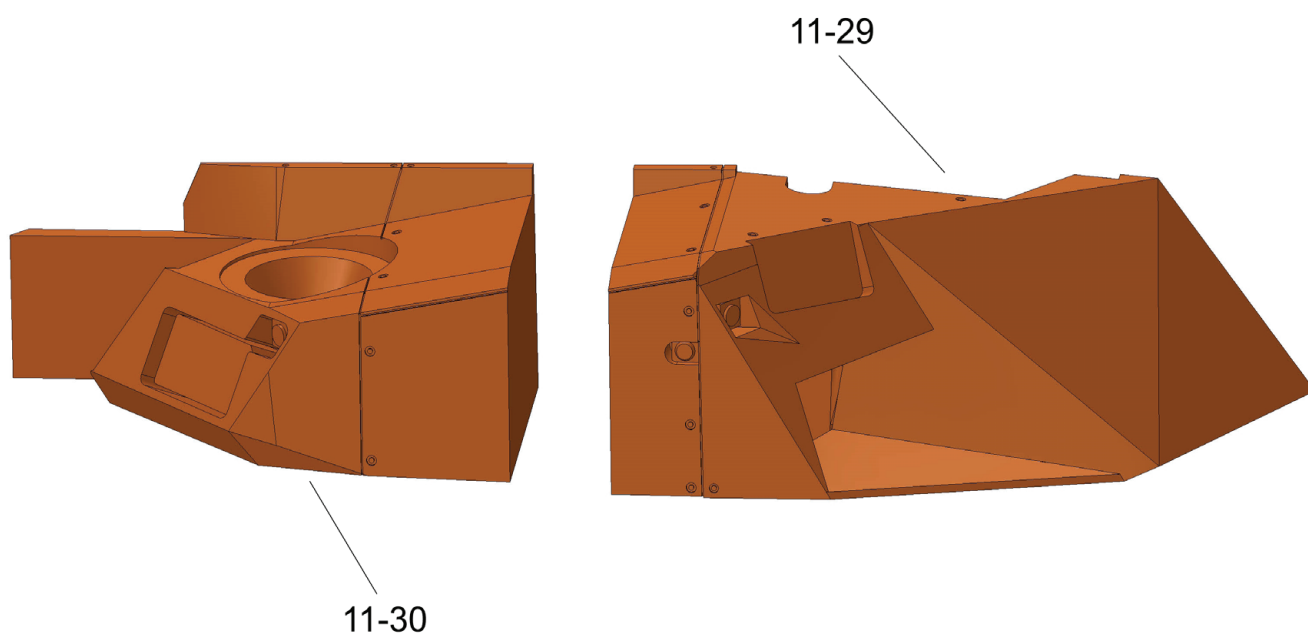
Assembly 11 (turret)

step 14 detail



Correct position of part 11-27.

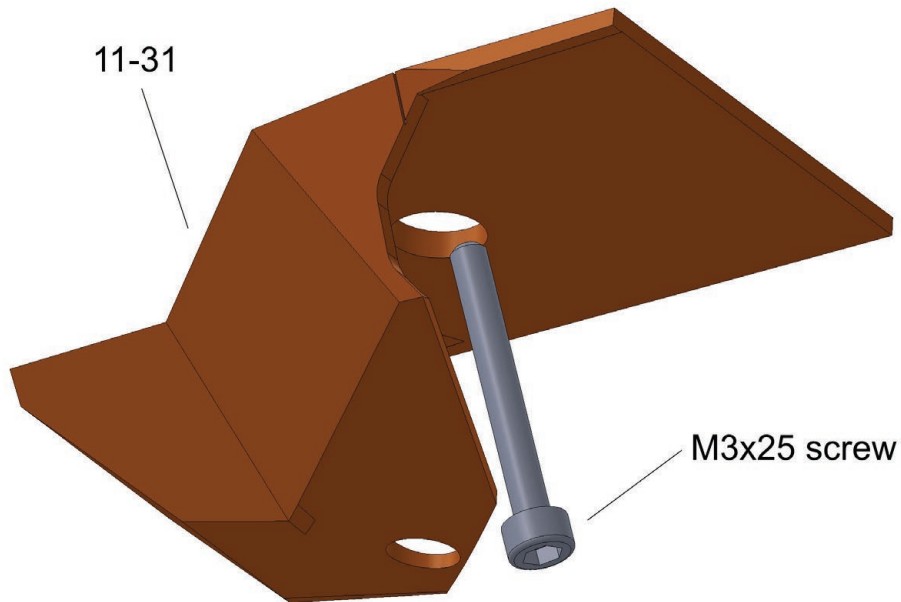
step 15



Glue parts 11-29 and 11-30.

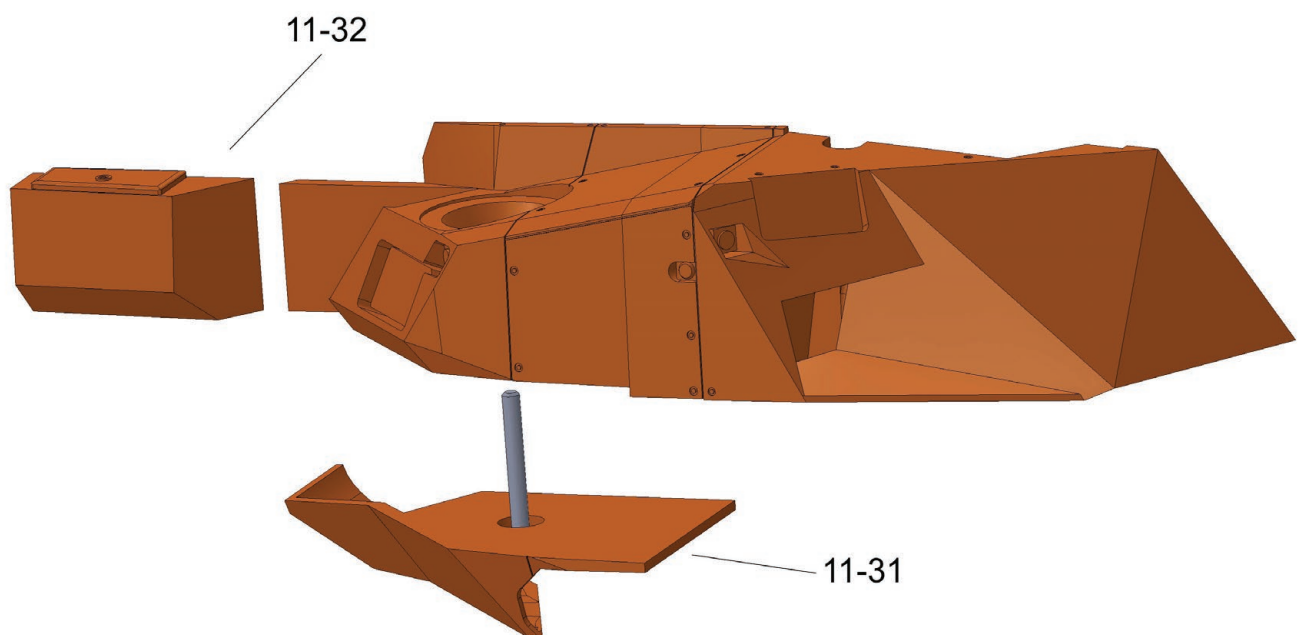
Assembly 11 (turret)

step 16



Insert the M3x25mm screw into part 11-31.
It is important to do this before gluing the part to the turret.
Later it will be impossible.

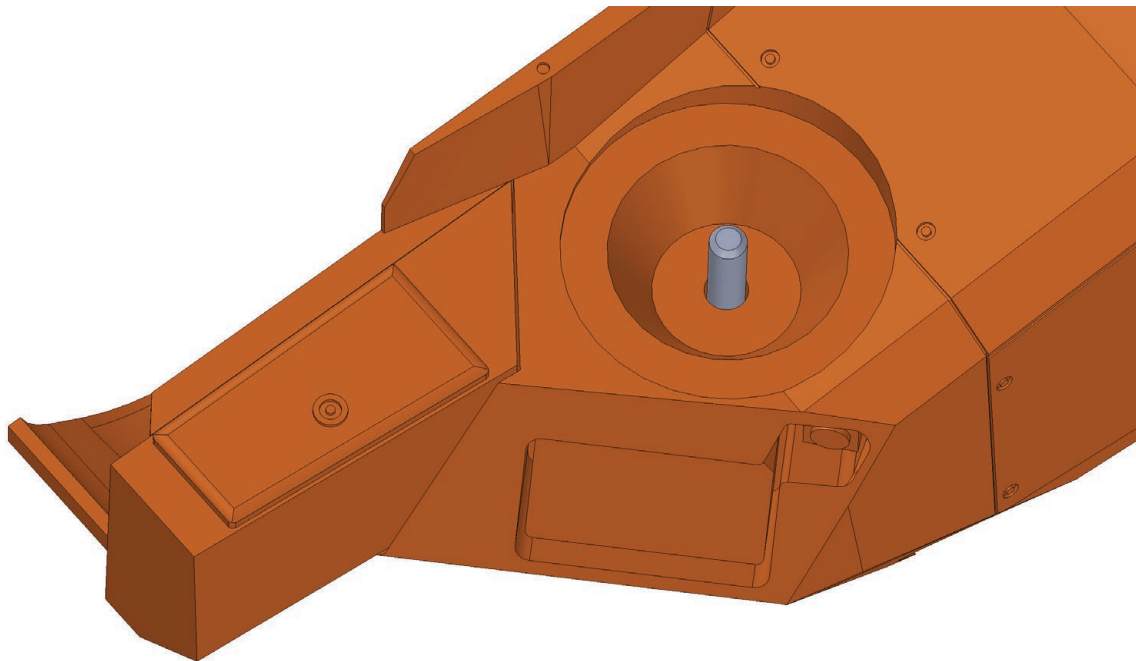
step 17



Glue parts 11-31 and 11-32.

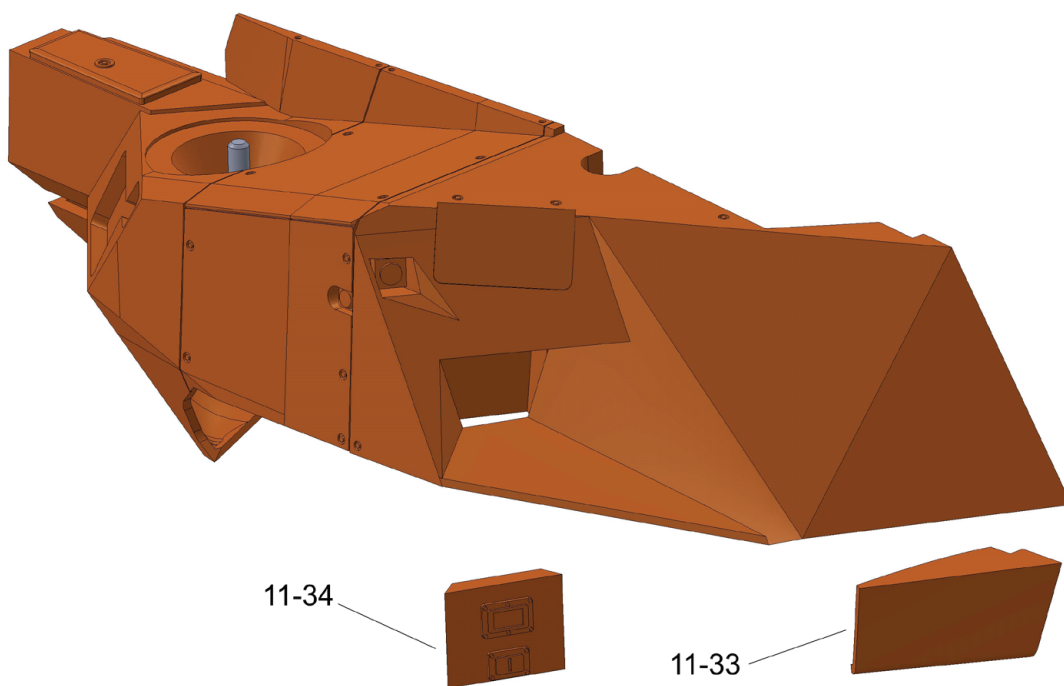
Assembly 11 (turret)

step 17 detail



Correct position of part 11-32.

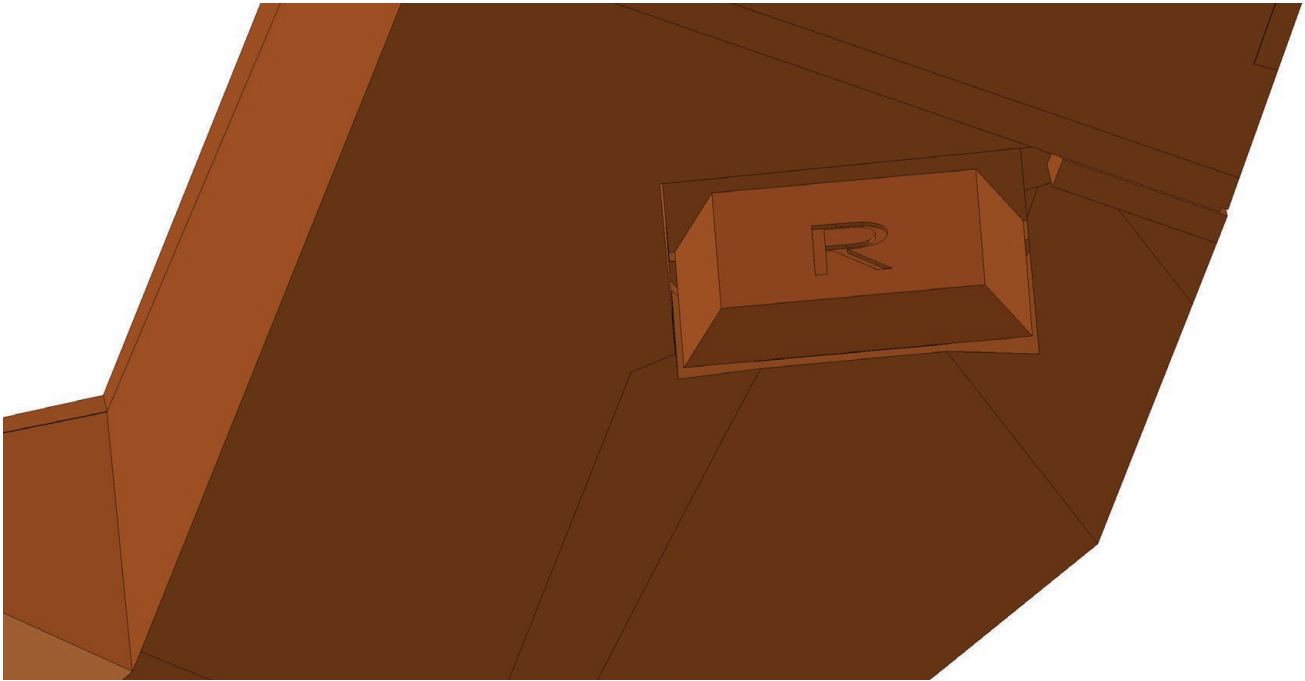
step 18



Glue parts 11-33 and 11-34.

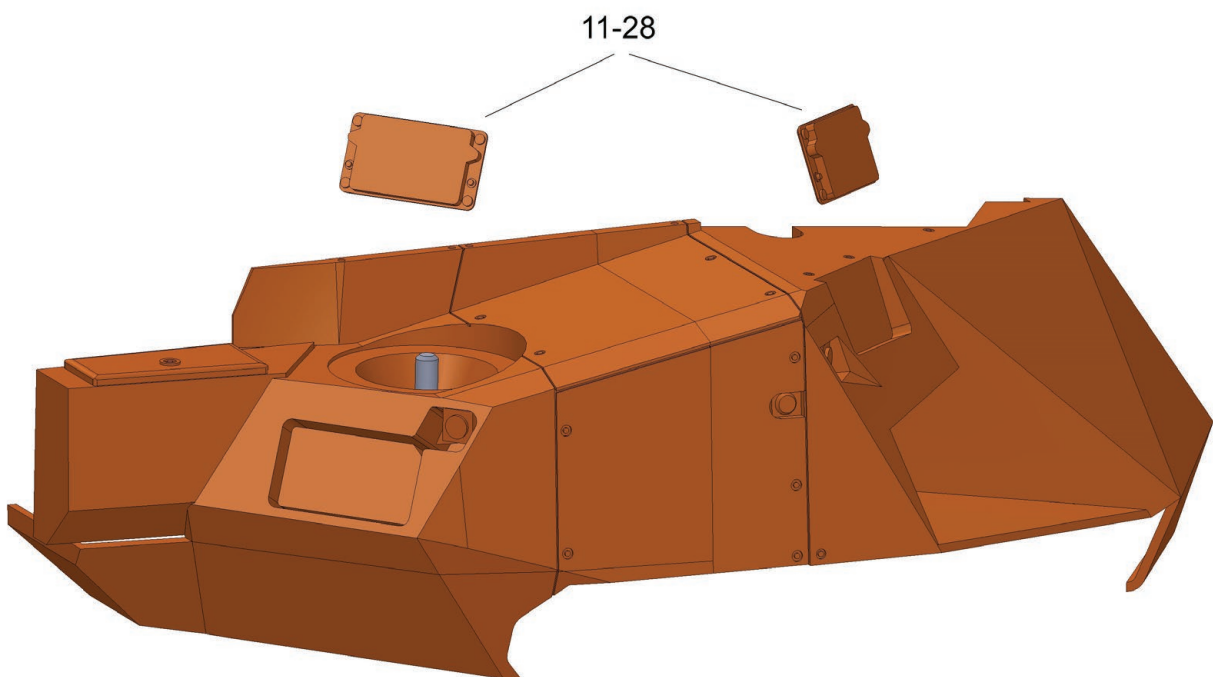
Assembly 11 (turret)

step 18 detail



Correct position of part 11-34.

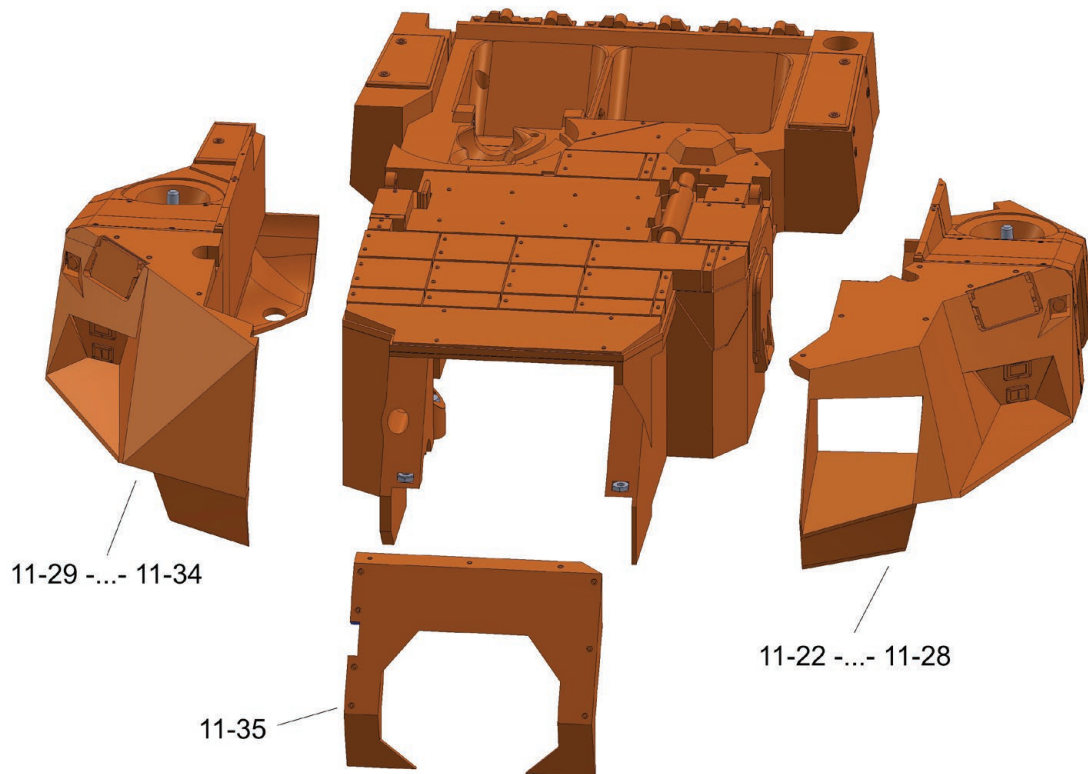
step 19



Glue parts 11-28.

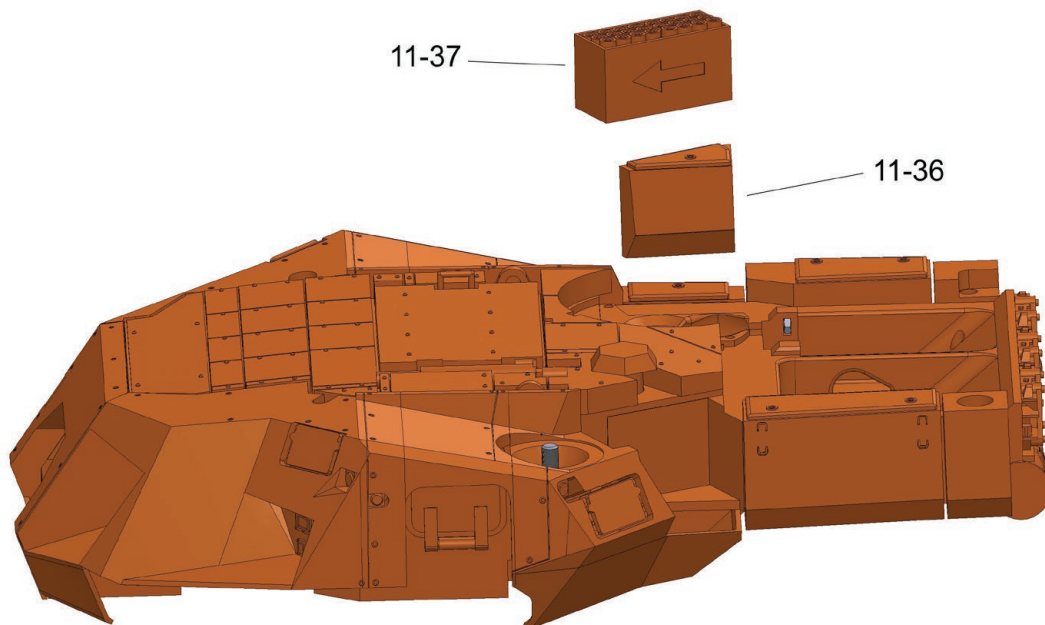
Assembly 11 (turret)

step 20



Glue the pieces 11-22 -...- 11-28 and 11-29 -...- 11-34 together.
Glue part 11-35. Before gluing, test the correct position of the parts.

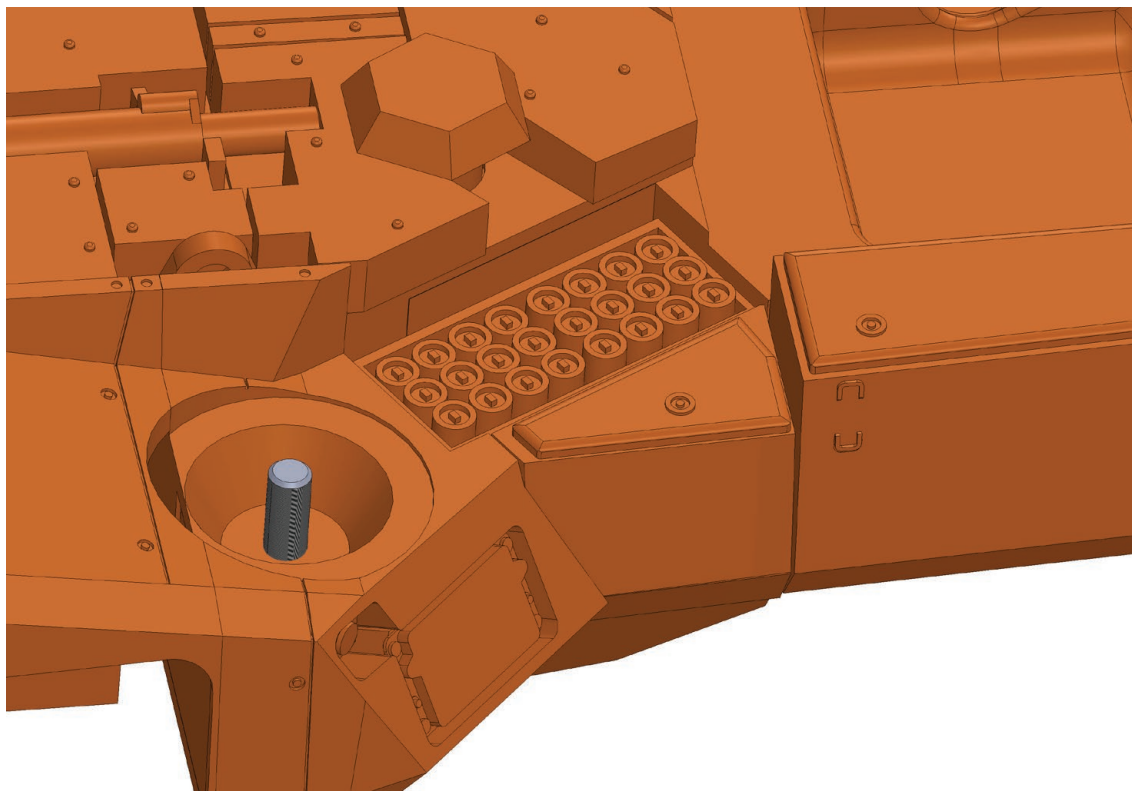
step 21



Glue parts 11-37 and 11-38. Make sure that part 11-37 is correctly oriented according to the arrow.

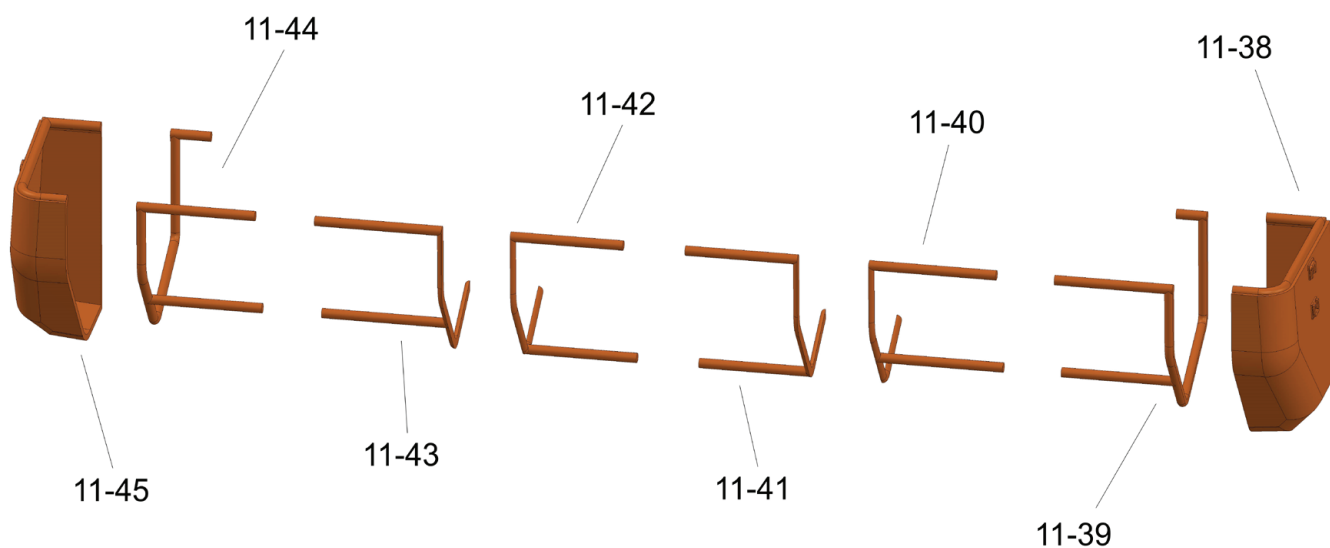
Assembly 11 (turret)

step 21 detail



Correct position of parts 11-37 and 11-38.

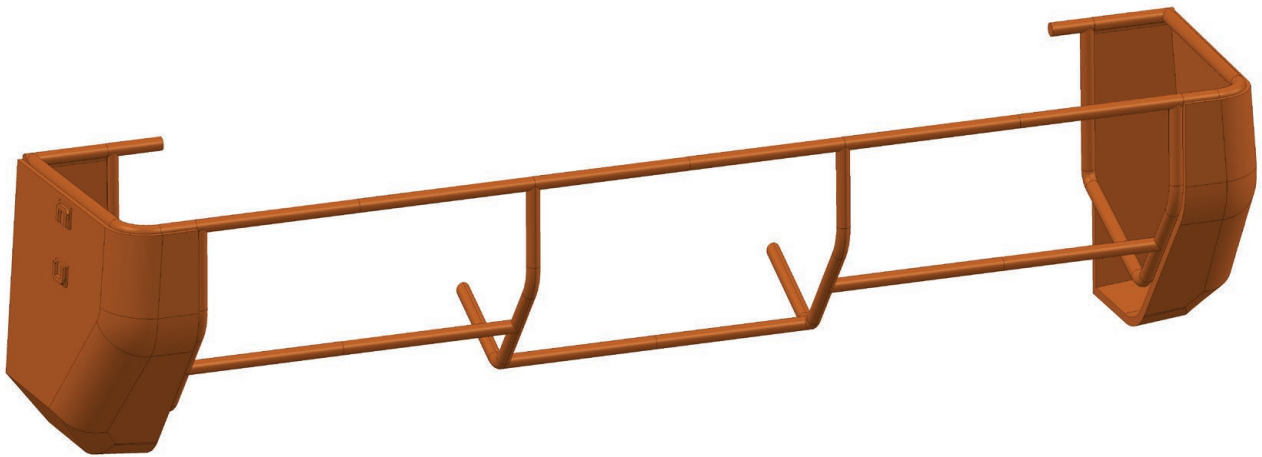
step 22



Zlepte diely 11-38, 11-39, 11-40, 11-41, 11-42, 11-43, 11-44 a 11-45.
If alternative resin parts are used, skip this step.

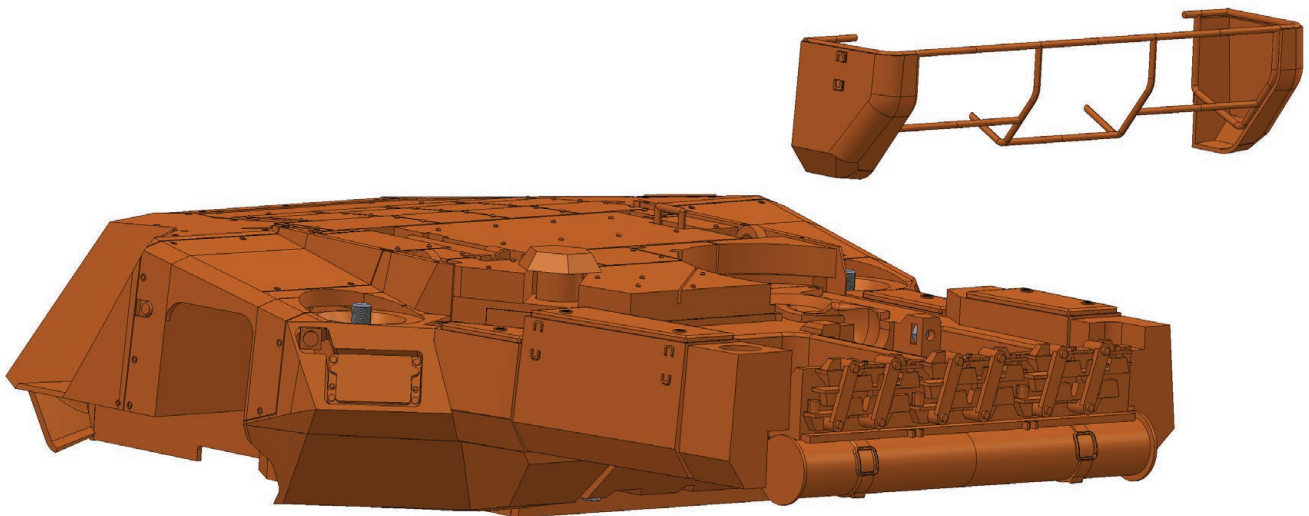
Assembly 11 (turret)

step 22 detail



Complete set of parts 11-38 to 11-45.

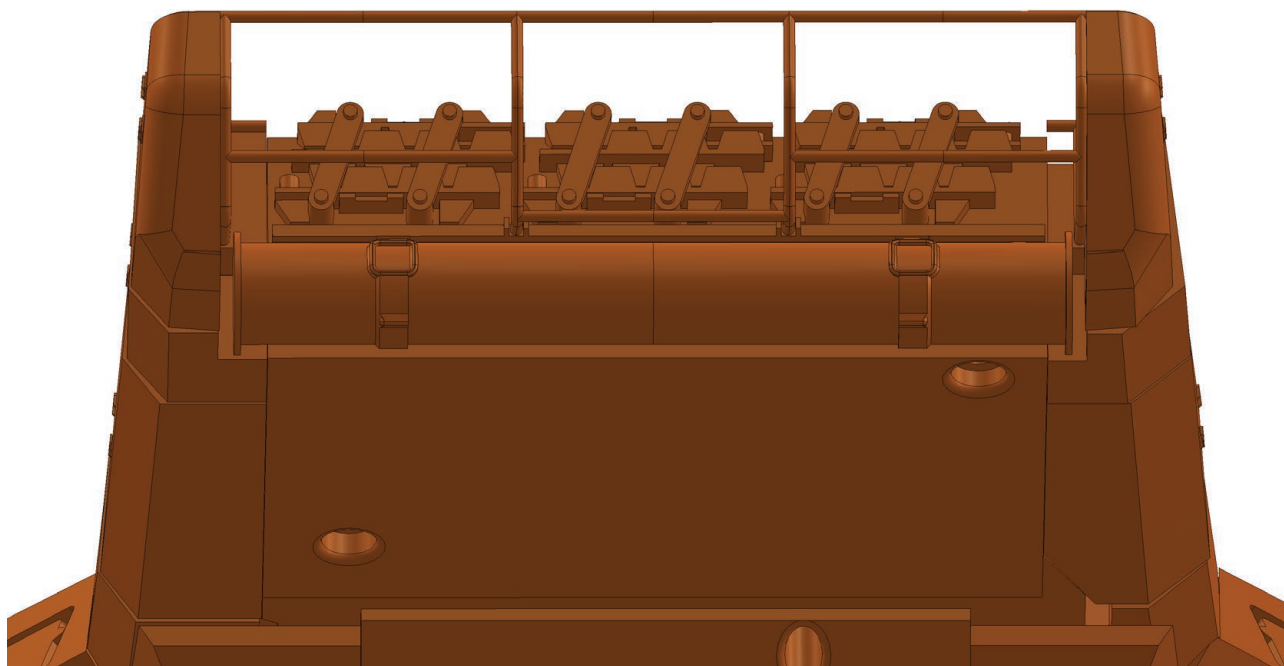
step 23



Glue the assembly of parts 11-38 to 11-45 to the tower.

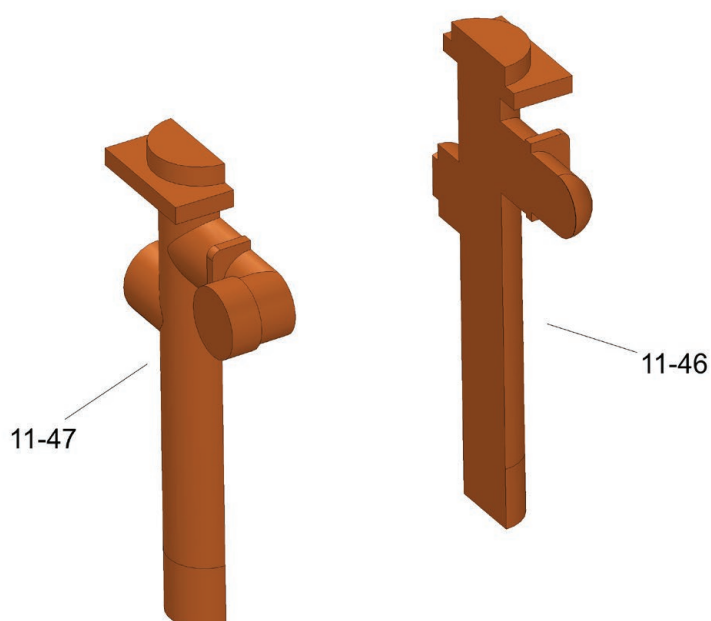
Assembly 11 (turret)

step 23 detail



Correct position of the assembly of parts 11-38 to 11-45.

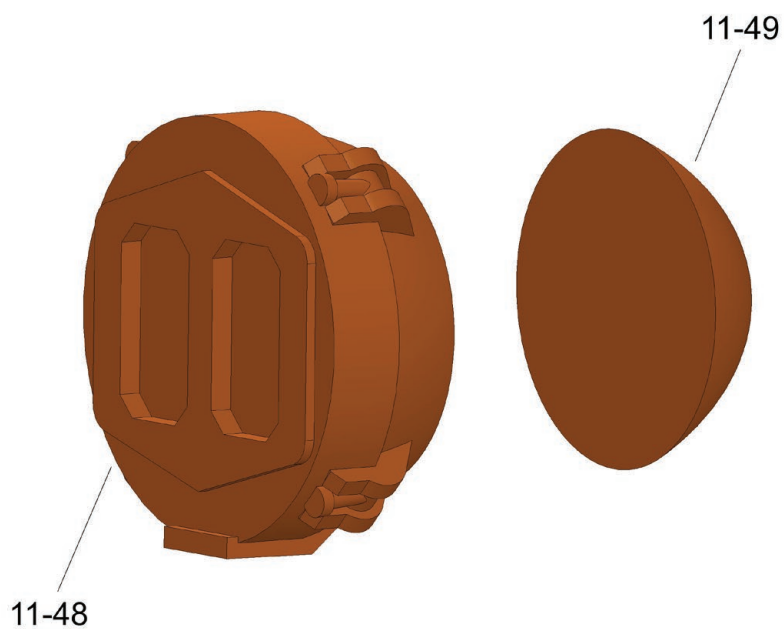
step 24



Glue parts 11-46 and 11-47.
If alternative resin parts are used, skip this step.

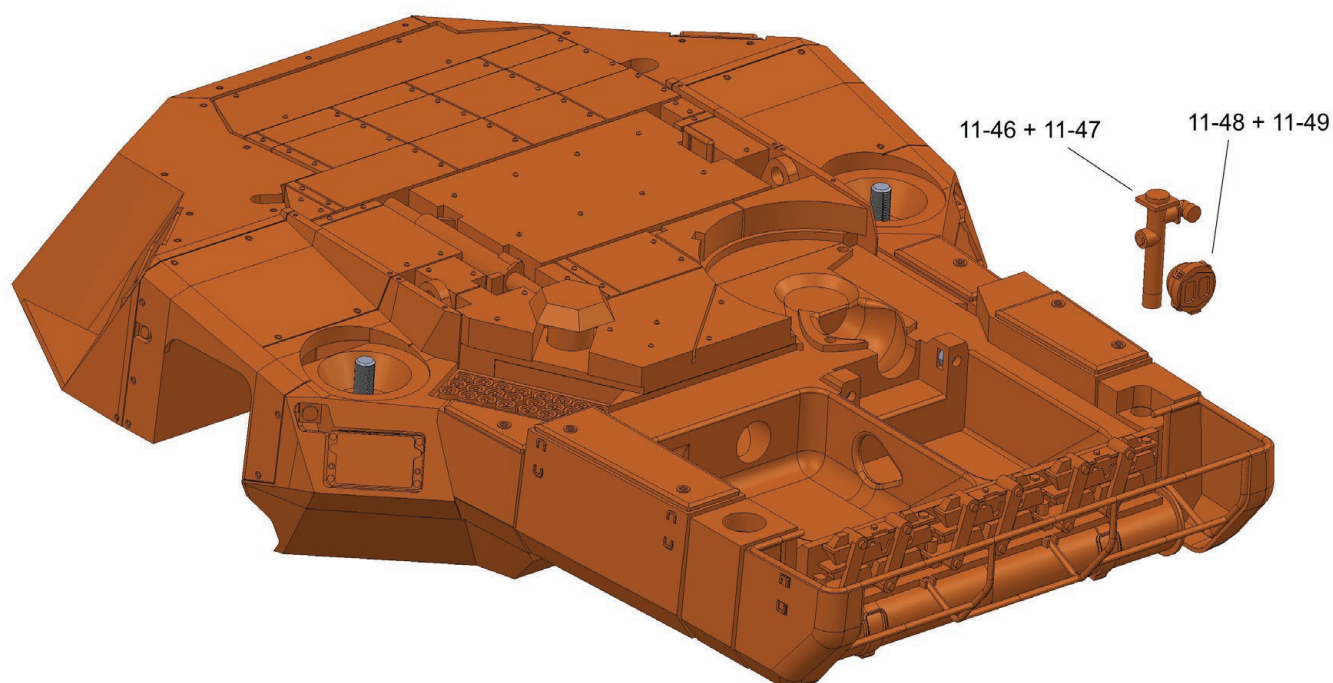
Assembly 11 (turret)

step 25



Glue parts 11-48 and 11-49.

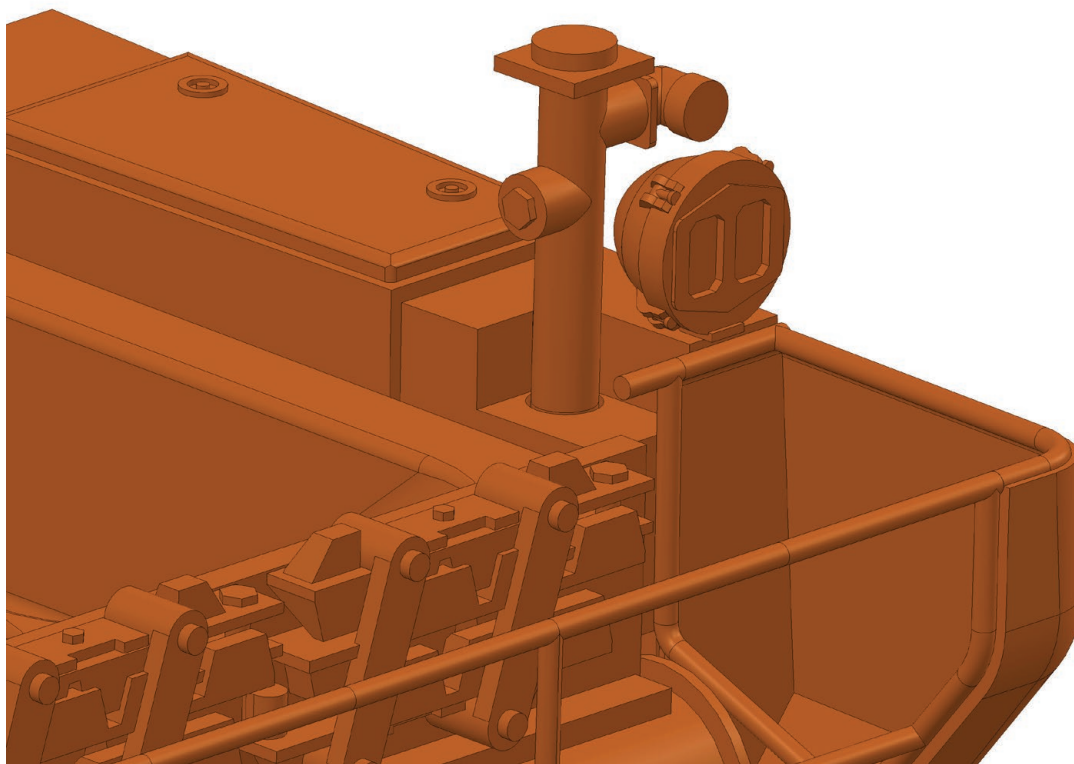
step 26



Place the pieces 11-46 + 11-47 and 11-48 + 11-49 on the turret.

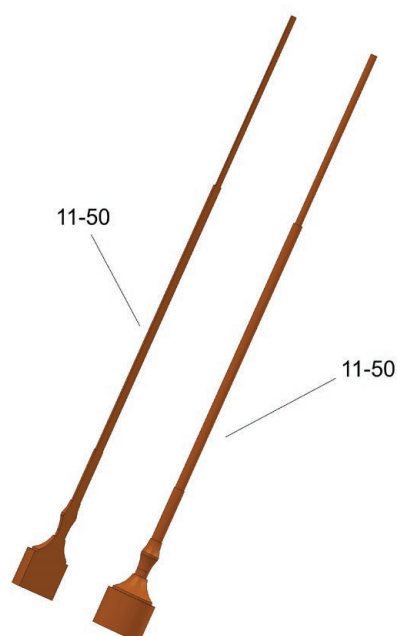
Assembly 11 (turret)

step 26 detail



Detail of the correct position of the assemblies of parts 11-46 + 11-47 and 11-48 + 11-49.

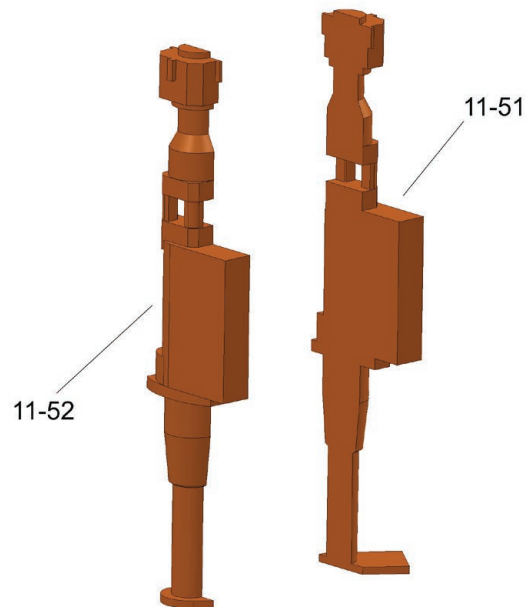
step 27



Glue the two parts 11-50 together.

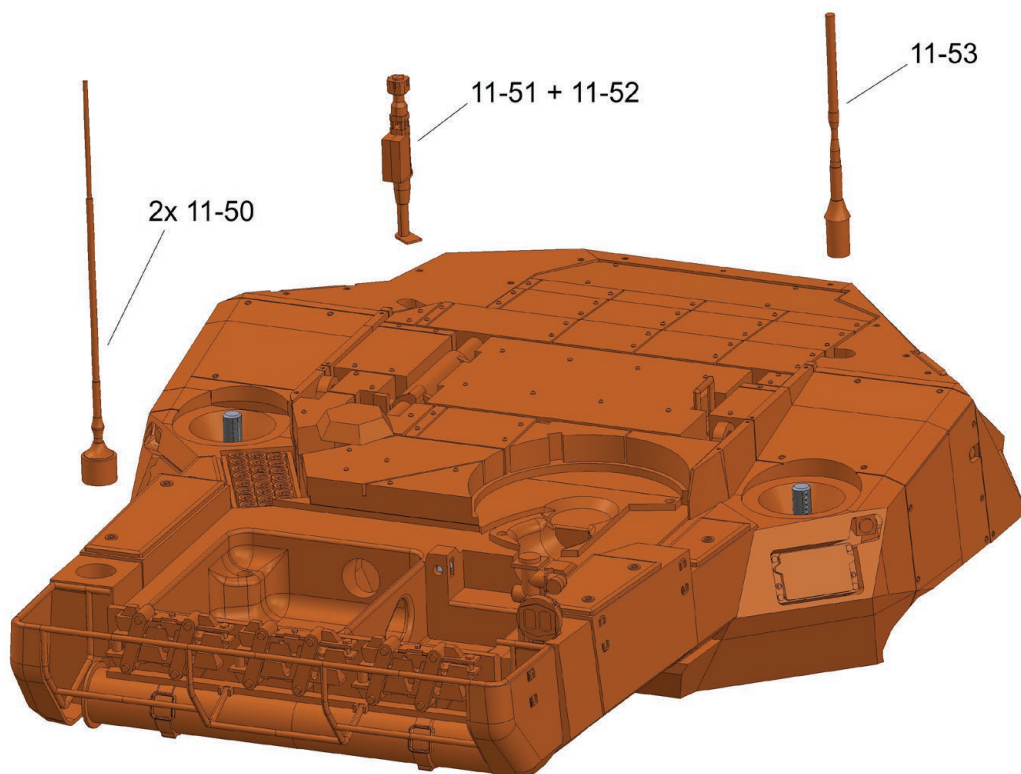
Assembly 11 (turret)

step 28



Glue parts 11-51 and 11-52 together.
If alternative resin parts are used, skip this step.

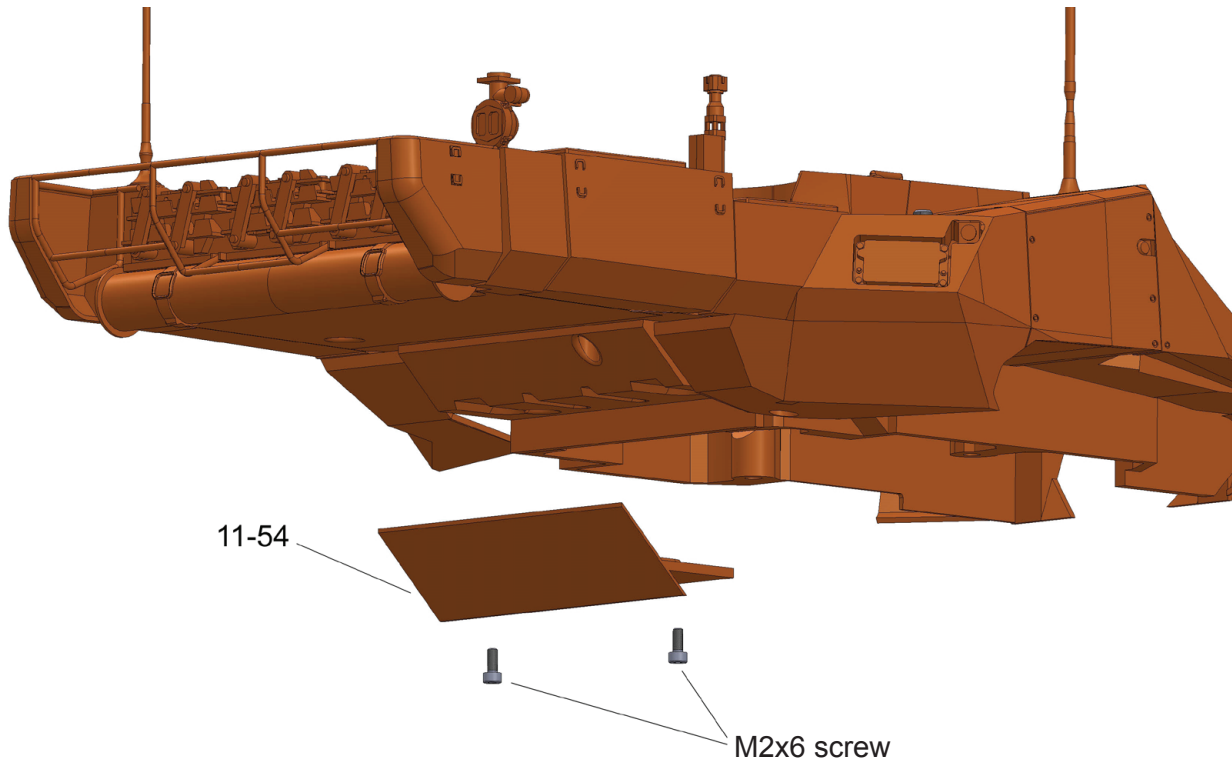
step 29



Glue the assembly of the two parts 11-50,
the assembly of 11-51 + 11-52 and the assembly of 11-53 to the turret.

Assembly 11 (turret)

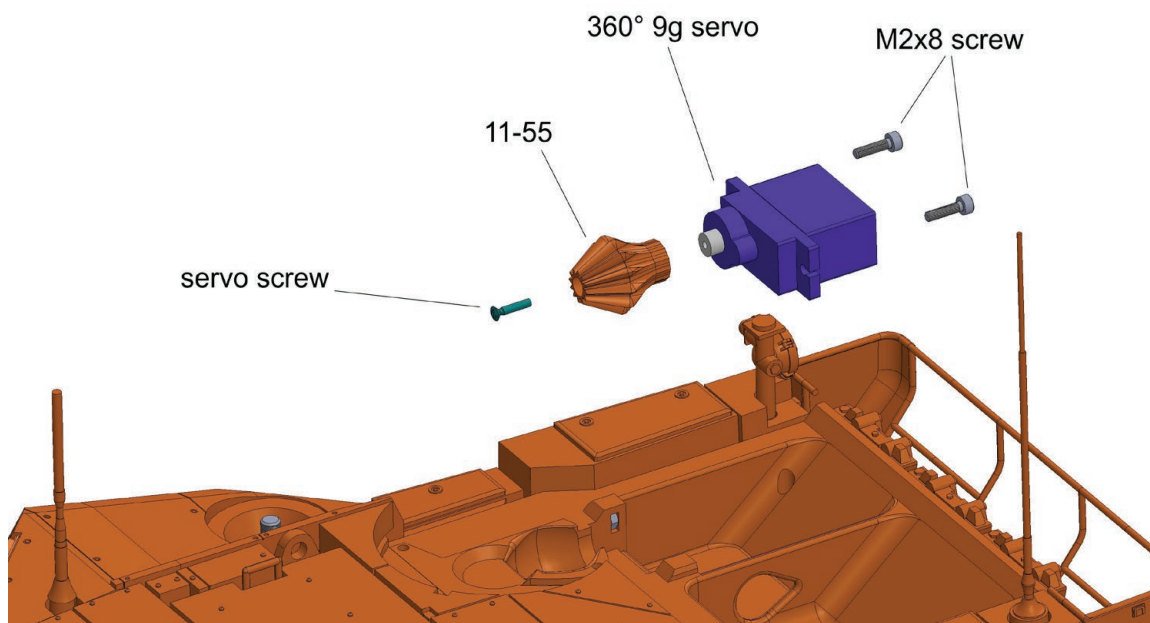
step 30



Screw the part 11-54 with two M2x6mm screws.

Do not glue the part with glue!!! The holes under the part must remain accessible!!!

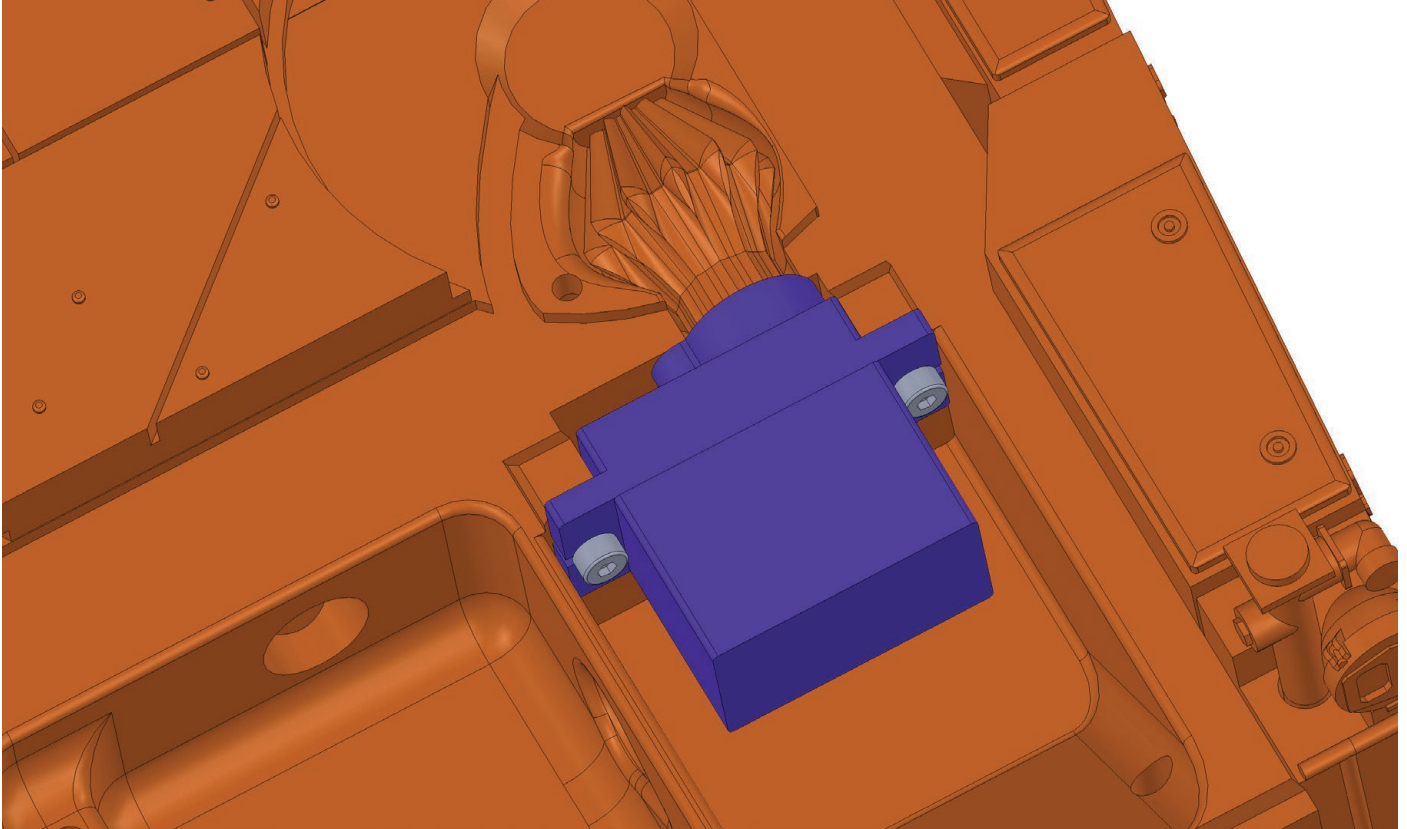
step 31



Fit the 360° 9g servo with part 11-55. Use the screw supplied with the servo motor. Attach the assembly to the turret using two M2x8mm screws.

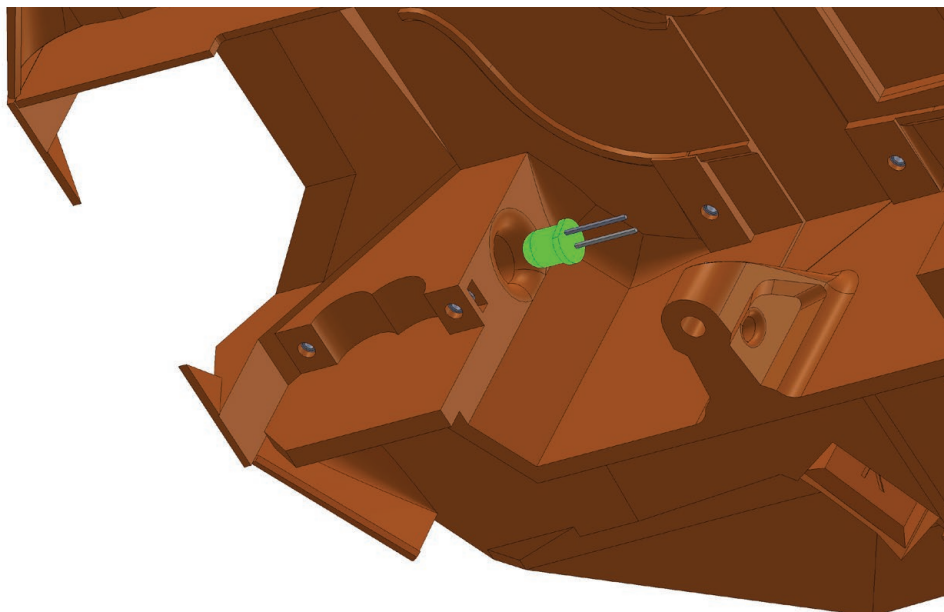
Assembly 11 (turret)

step 31 detail



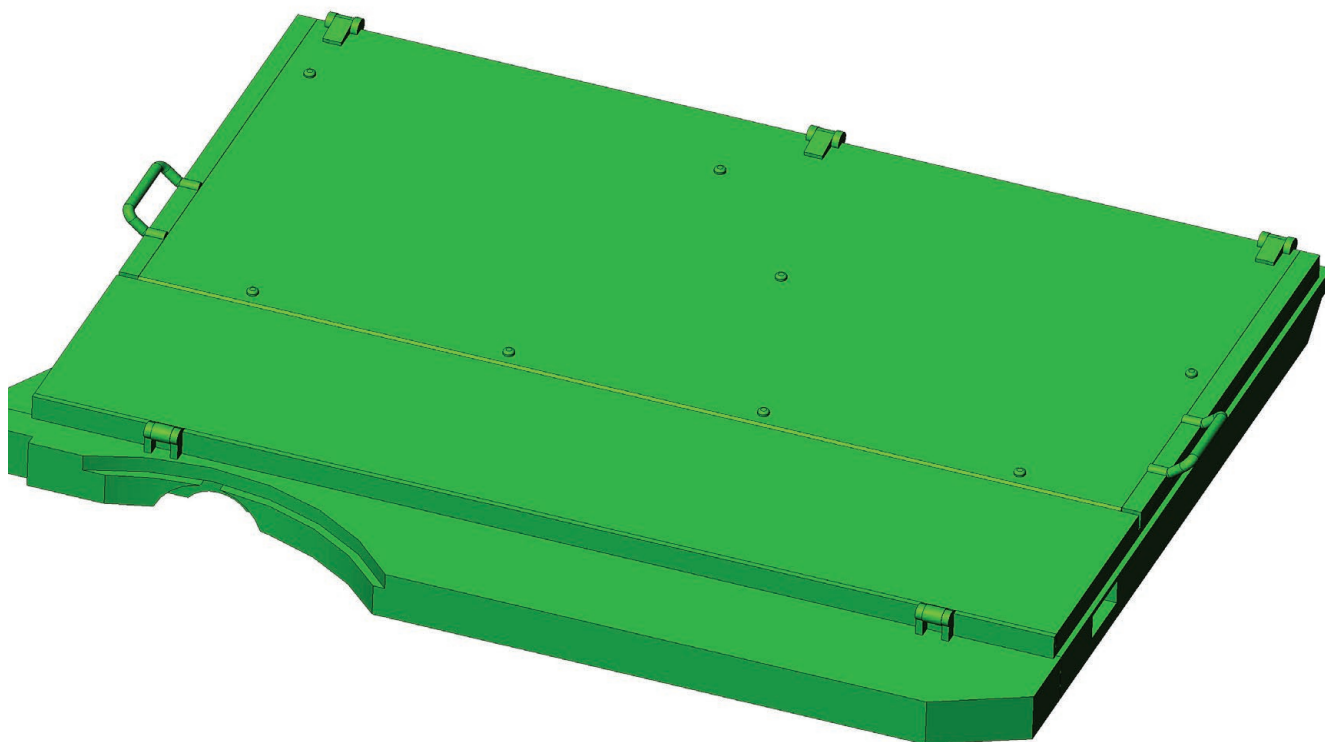
Correct position of the servo motor.

step 32 (optional)



Insert the 5mm IR diode into the specified hole.

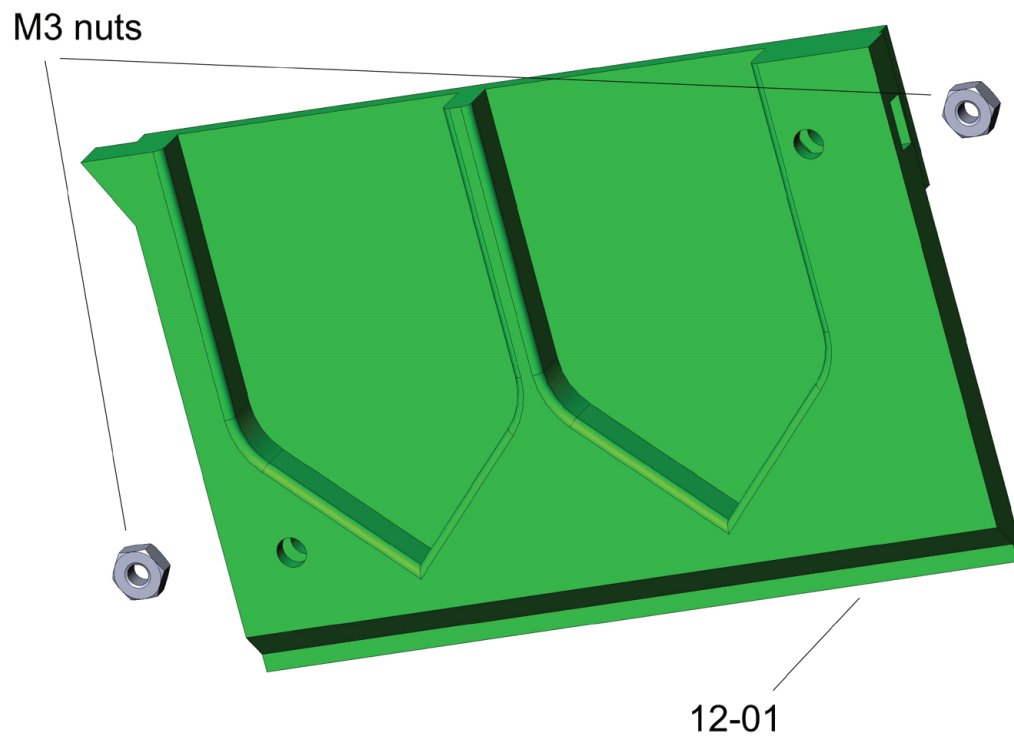
Assembly 12 (turret cover)



AMOUNT:	1
PRINTED PARTS:	12-01 (1x), 12-02 (1x), 12-03 (1x), 12-04 (1x).
OPTIONAL PRINTED PARTS:	12-01_SLA (1x).
NON-PRINTED PARTS:	M3 nut (2x).
OPTIONAL NON-PRINTED PARTS:	

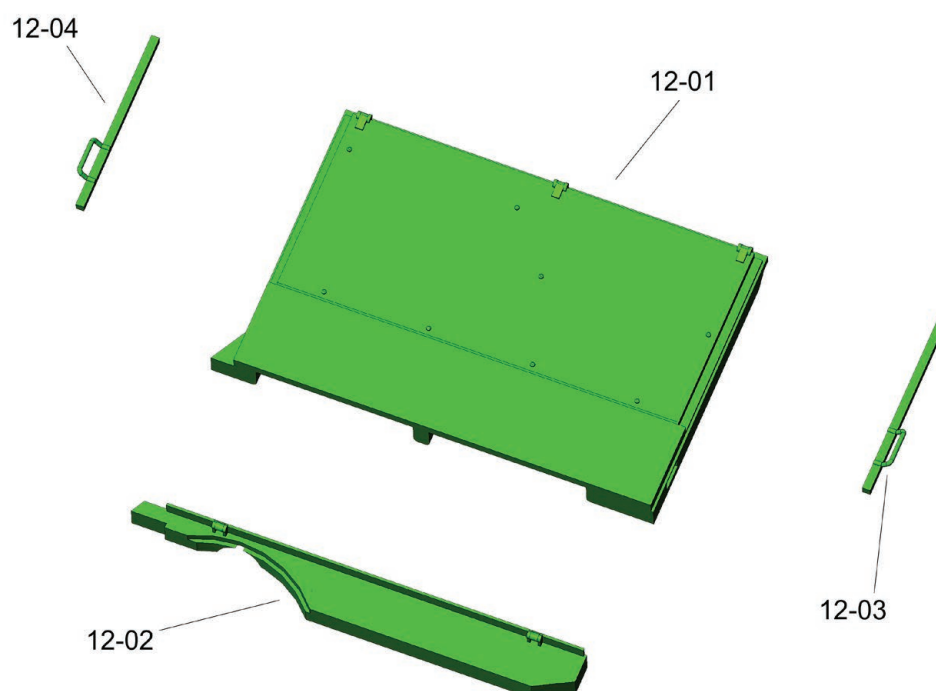
Assembly 12 (turret cover)

step 1



Fit part 12-01 with two M3 nuts.

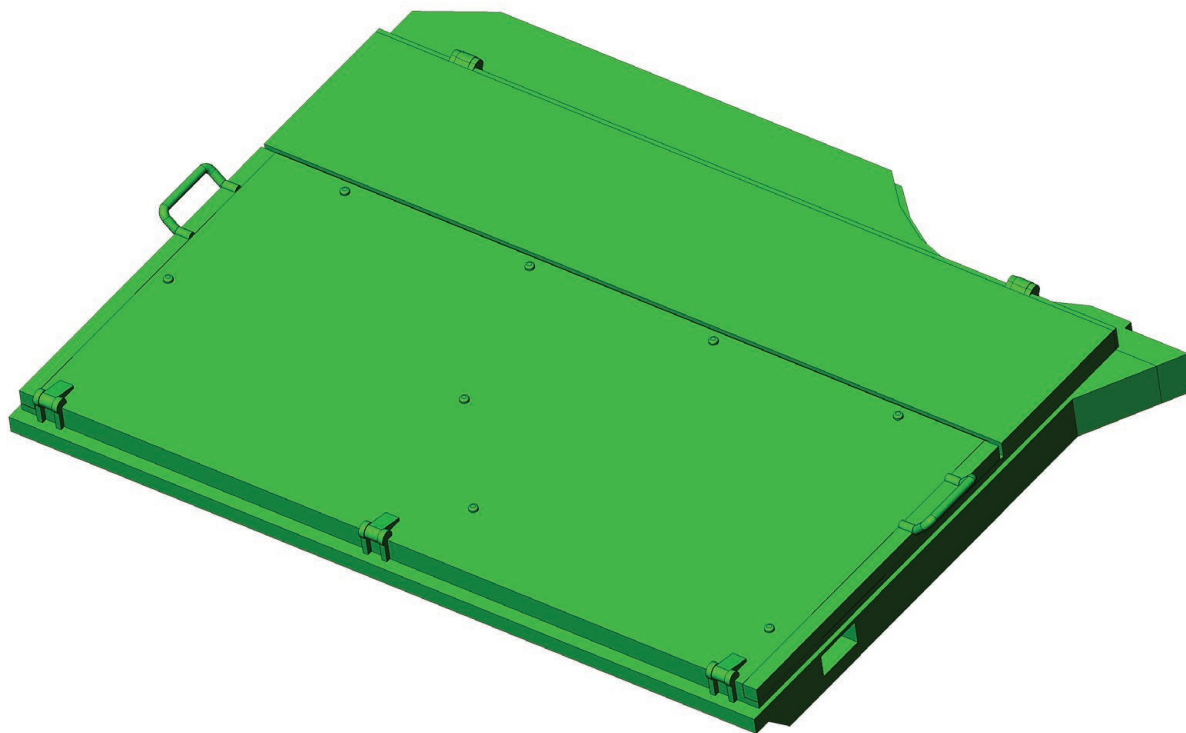
step 2



Glue parts 12-01, 12-02, 12-03 and 12-04.

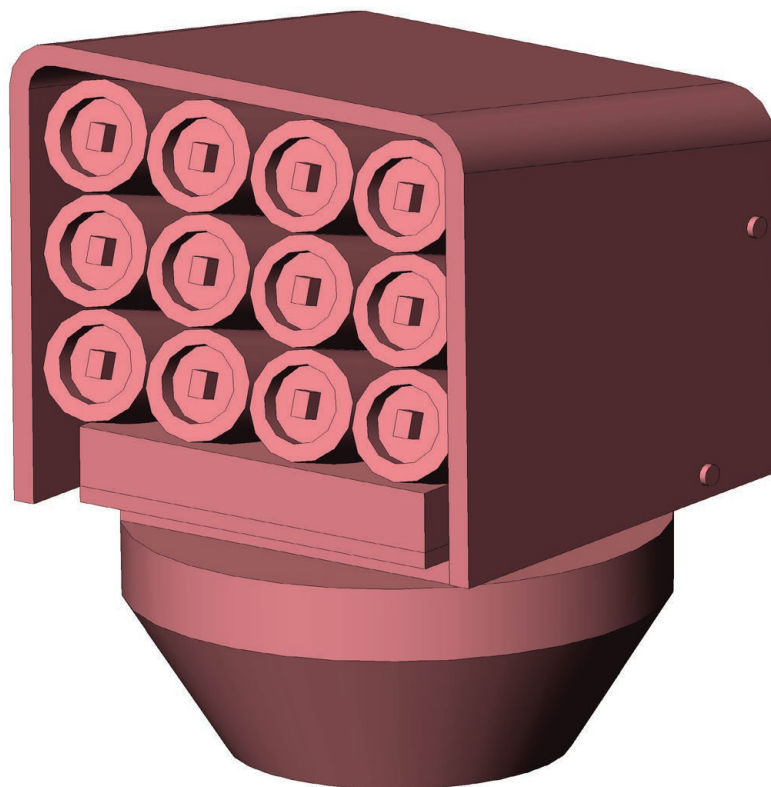
Assembly 12 (turret cover)

step 2 detail



Complete assembly 12.

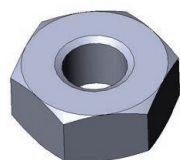
Assembly 13 (smoke discharger)



AMOUNT:	2
PRINTED PARTS:	12-01 (2x), 12-02 (2x), 12-03 (2x).
OPTIONAL PRINTED PARTS:	
NON-PRINTED PARTS:	M3 nut (2x).
OPTIONAL NON-PRINTED PARTS:	

Assembly 13 (smoke discharger)

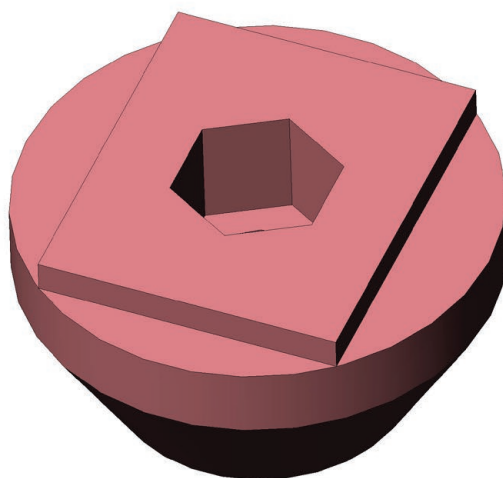
step 1



M3 nut

2x

13-01

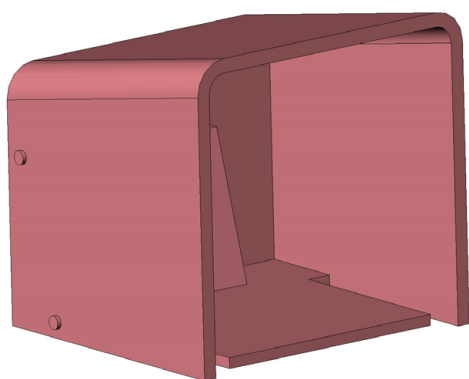


Fix the part 13-01 with the nut M3. The nut must be tight. If necessary, glue it on.

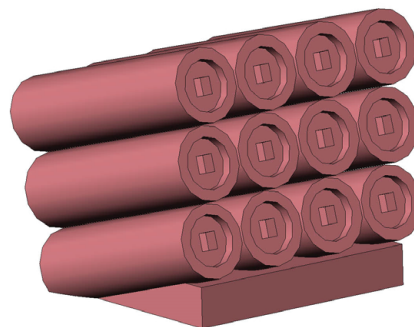
step 2

13-02

2x



13-03



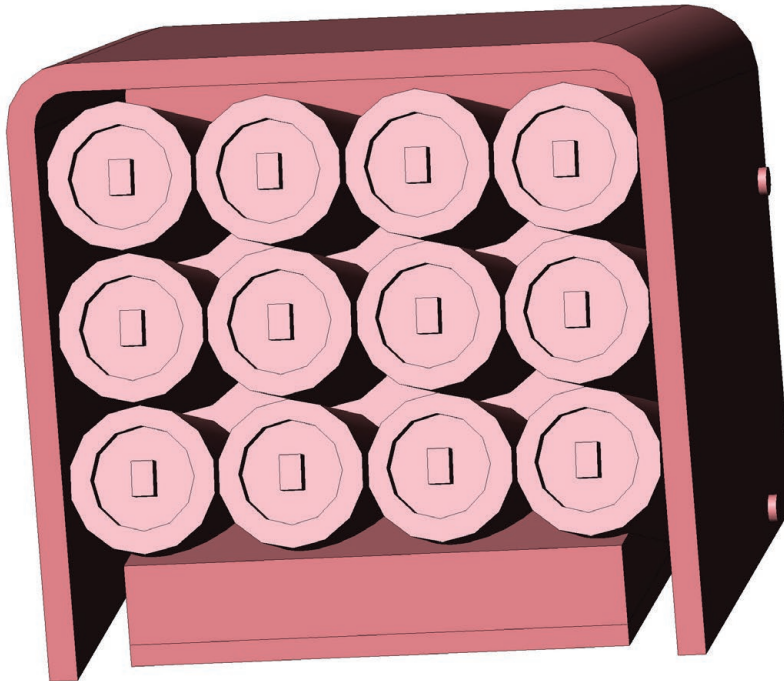
Glue parts 13-02 and 13-03 together.

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Assembly 13 (smoke discharger)

step 2 detail

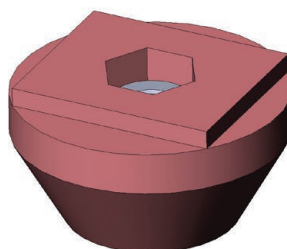
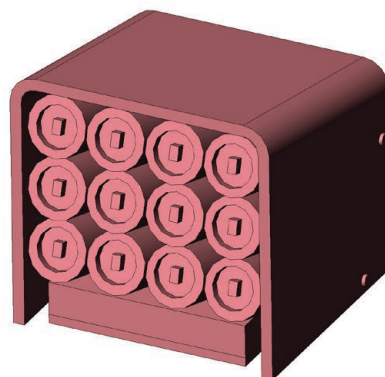
2x



Correct position of parts 13-01 and 13-02.

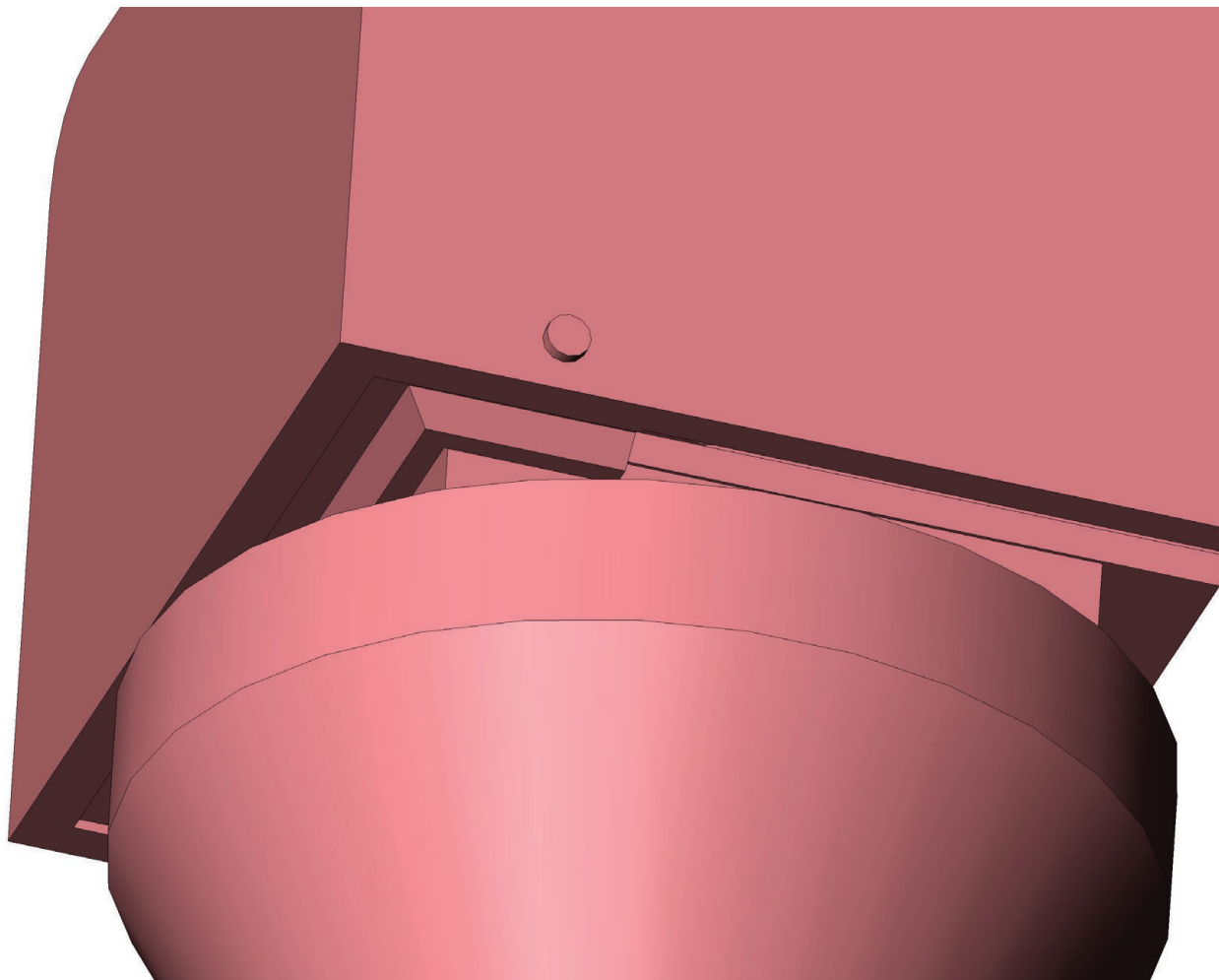
step 3

2x



Glue the assembly of parts 13-02 and 13-03 to part 13-01.

step 3 detail



Detail of the correct position of parts 13-01 and 13-03.

Assembly 14 (MG turret)

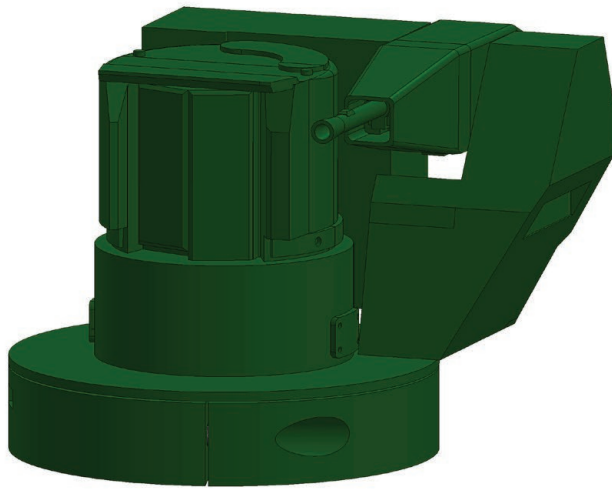
There are 2 different types of machine gun turret to choose from. The turret can be exchanged for another type at any time:

A - 360° rotatable turret

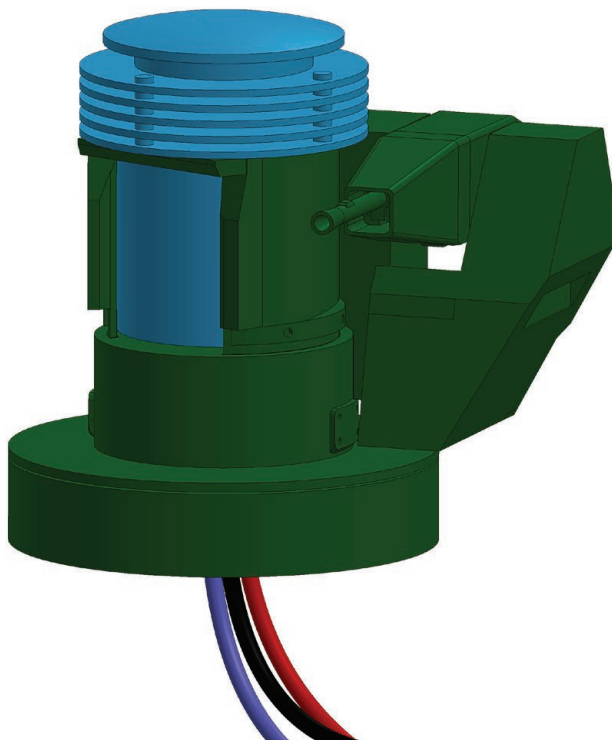
B - fixed tower without rotation. Used for IR duels.

Compatible with Heng-Long® and Torro® IR receivers.

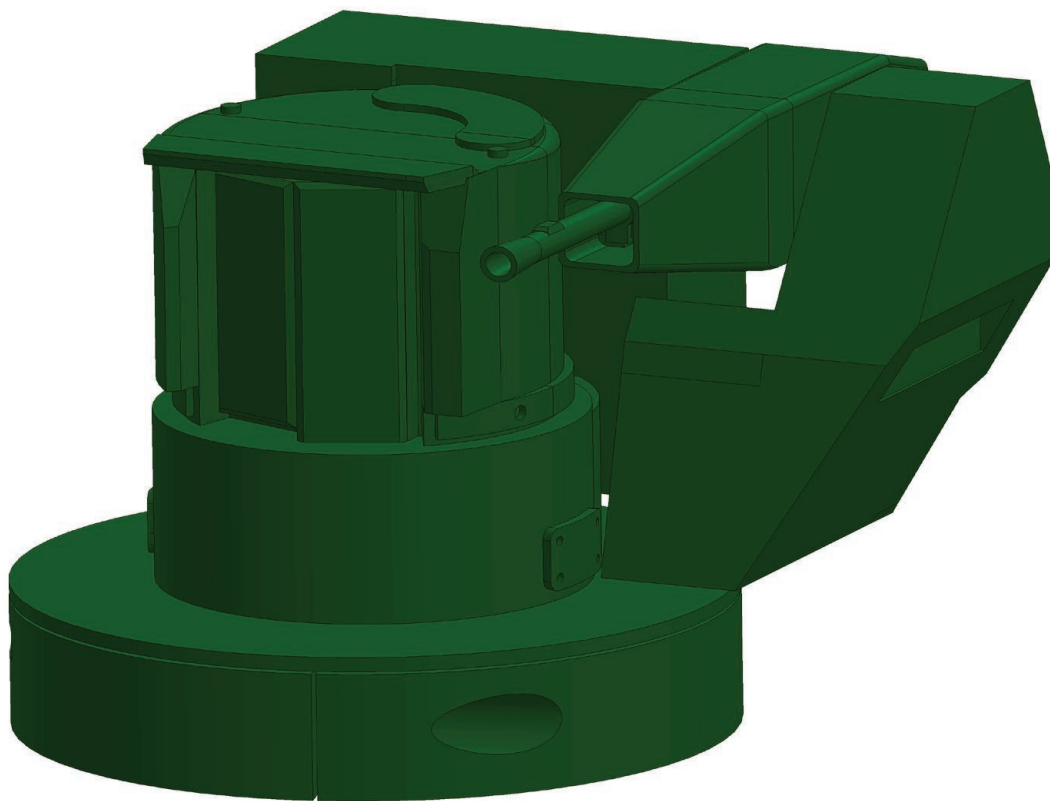
A



B



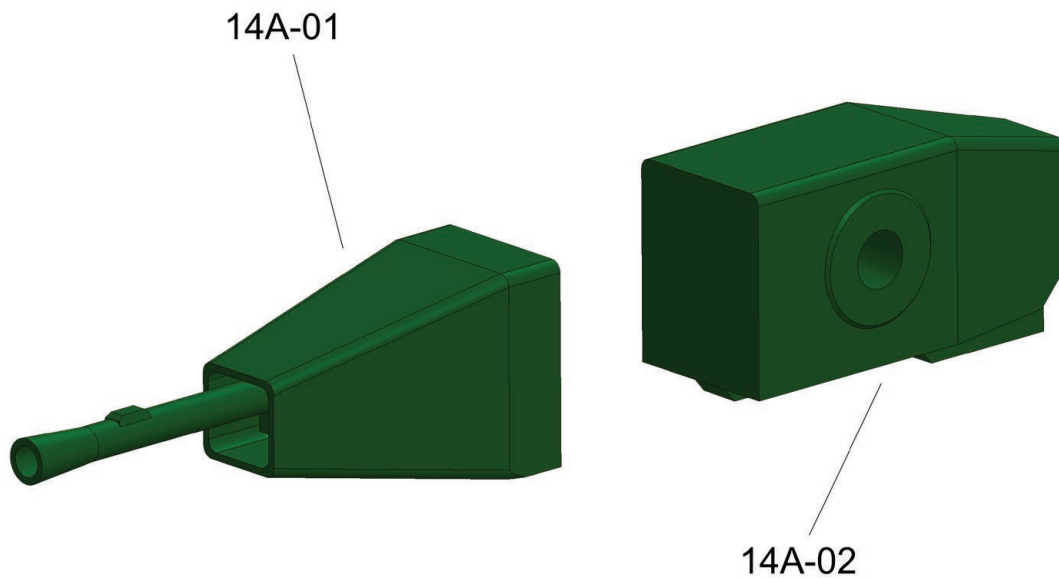
Assembly 14A (MG turret A)



AMOUNT:	1
PRINTED PARTS:	14A-01 (1x), 14A-02 (1x), 14A-03 (1x), 14A-04 (1x), 14A-05 (1x), 14A-06 (1x), 14A-07 (1x), 14A-08 (1x), 14A-09 (1x), 14A-10 (1x).
OPTIONAL PRINTED PARTS:	14A-07_SLA (1x).
NON-PRINTED PARTS:	M2x8mm screw (1x), M3x16mm screw (1x), M2 nut (3x), M3 nut (1x), M3 Washer (1x), 3x30mm pin, 623zz bearing (1x).
OPTIONAL NON-PRINTED PARTS:	

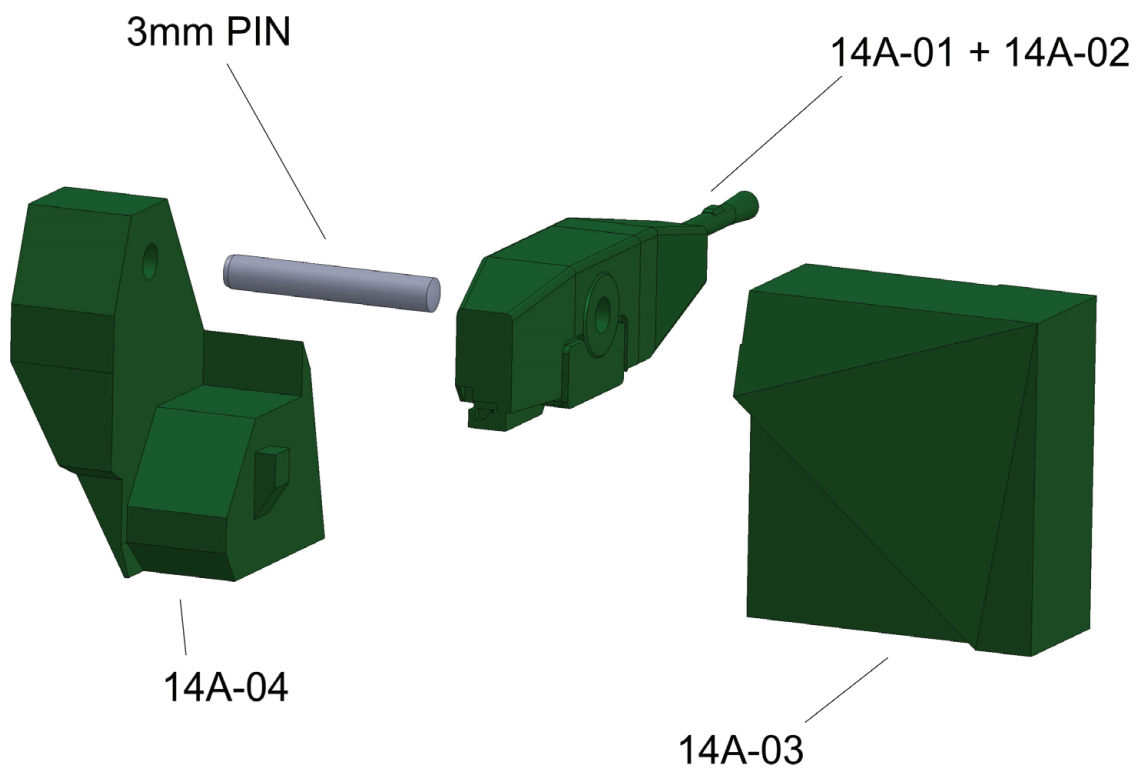
Assembly 14A (MG turret A)

step 1



Glue parts 14A-01 and 14A-02 together.

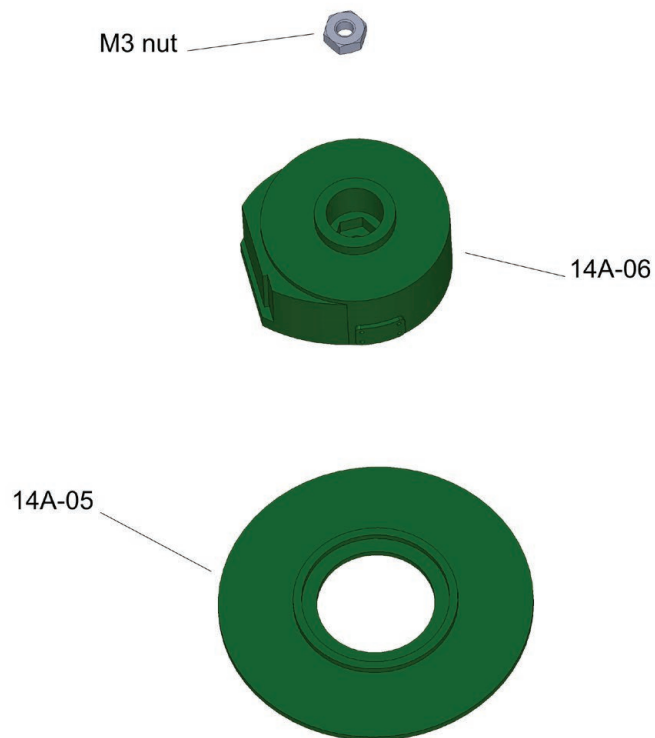
step 2



Attach parts 14A-03 and 14A-04 using a 3mm pin with a length of 25-30mm.

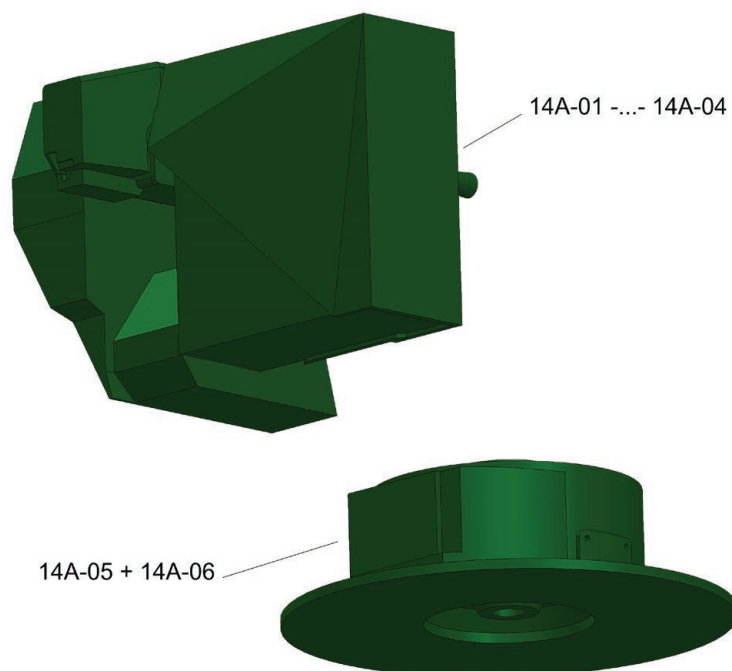
Assembly 14A (MG turret A)

step 3



Fix the part 14A-06 with the nut M3. The nut must be secure. If necessary, glue it on.
Glue the part 14A-05.

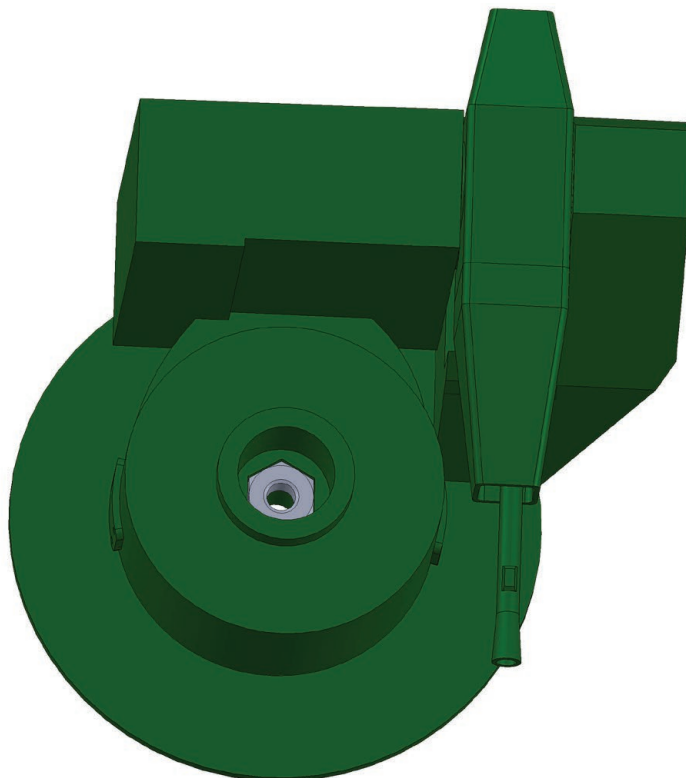
step 4



Glue together the assembly of parts 14A-01 to 14A-04 and the whole of 14A-05 + 14A-06.

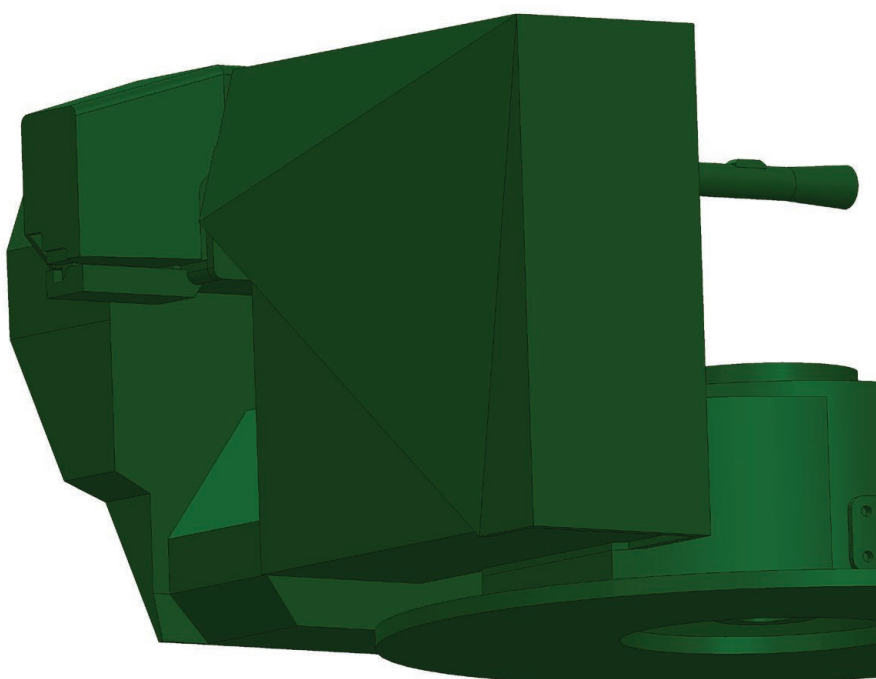
Assembly 14A (MG turret A)

step 4 detail



Correct position of parts 14A-01 to 14A-06.

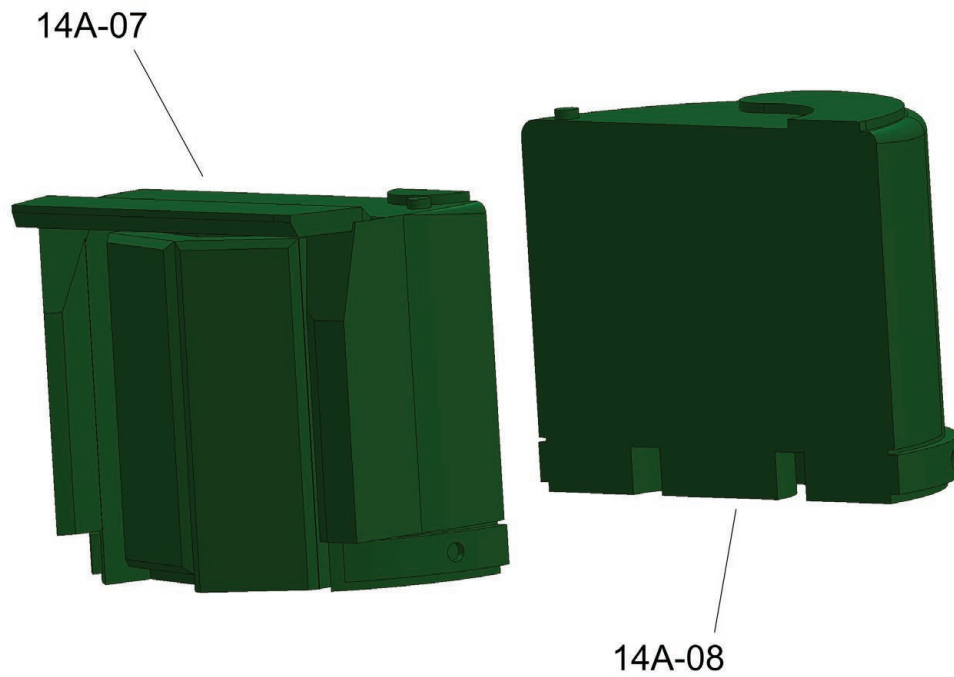
step 4 detail



Correct position of parts 14A-01 to 14A-06.

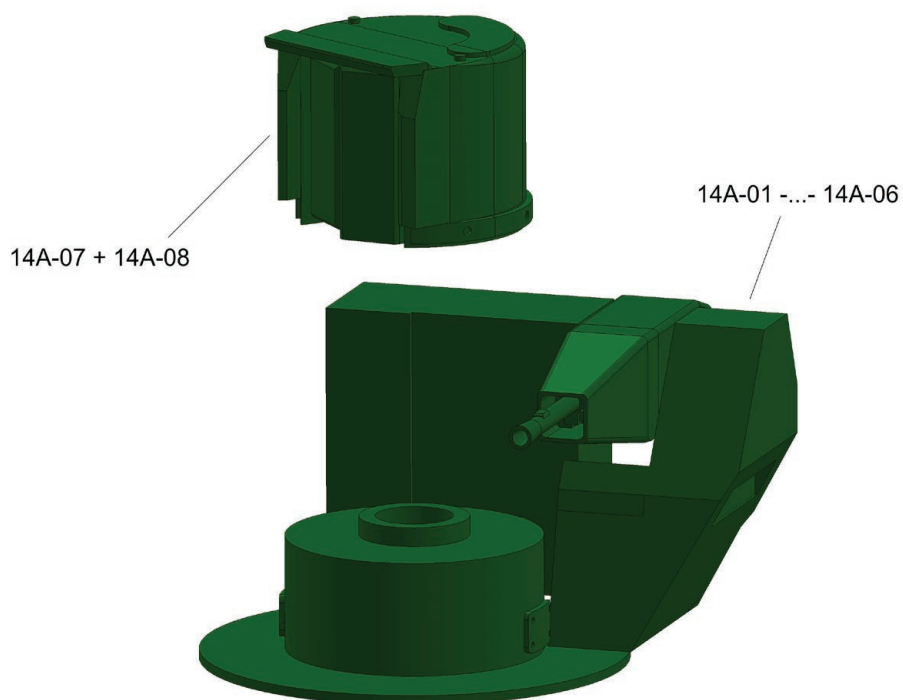
Assembly 14A (MG turret A)

step 5



Glue parts 14A-07 and 14A-08 together.

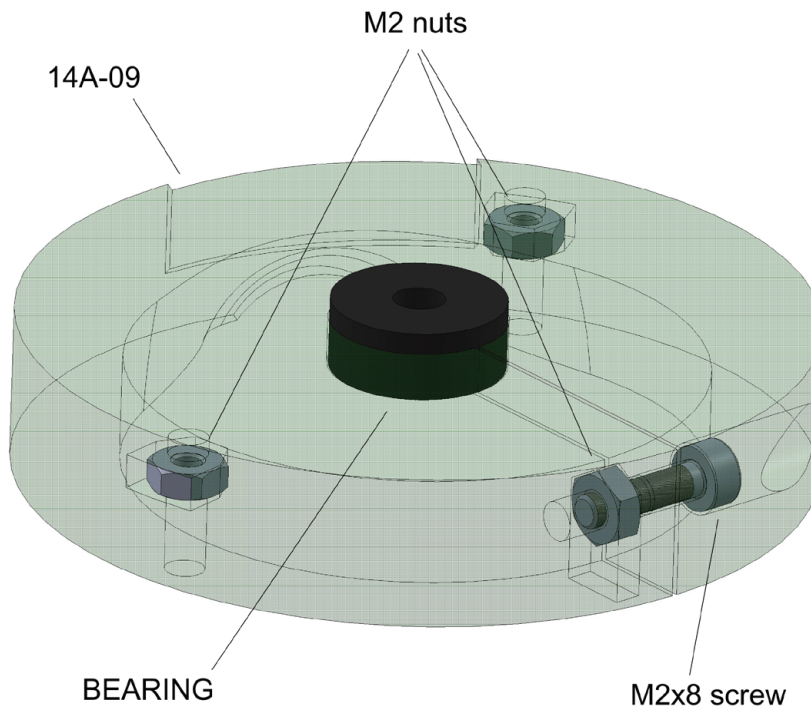
step 6



Glue together the assembly of parts 14A-01 to 14A-06 and the assembly of 14A-07 + 14A-08.

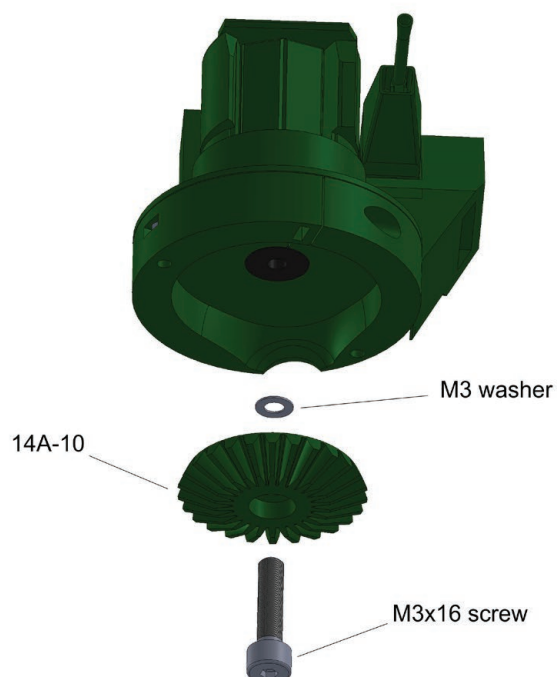
Assembly 14A (MG turret A)

step 7



Insert bearing 623zz into part 14A-09.
Insert 3 M2 nuts and fix the bearing with M2x8mm screw.

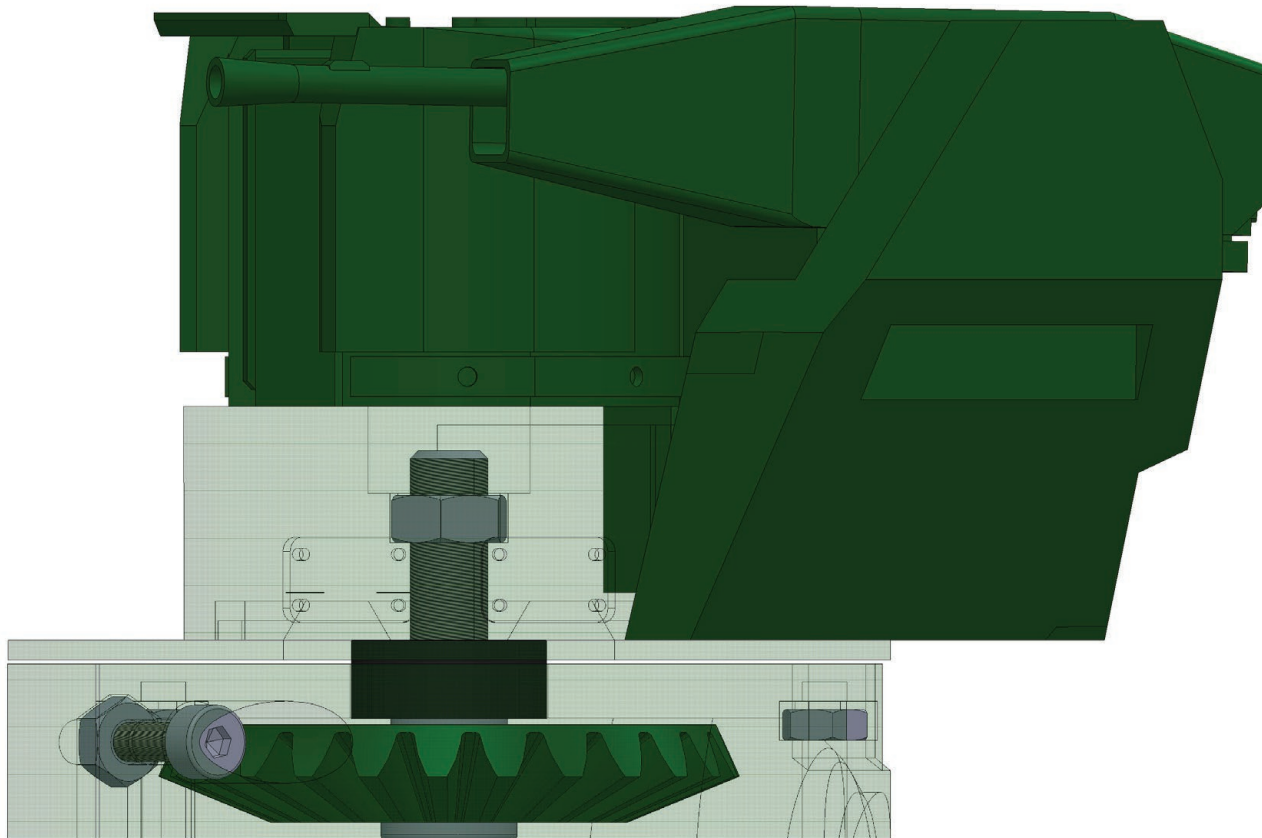
step 8



Fix the part 14A-10 with M3x16mm screw. **Use washer!!!**

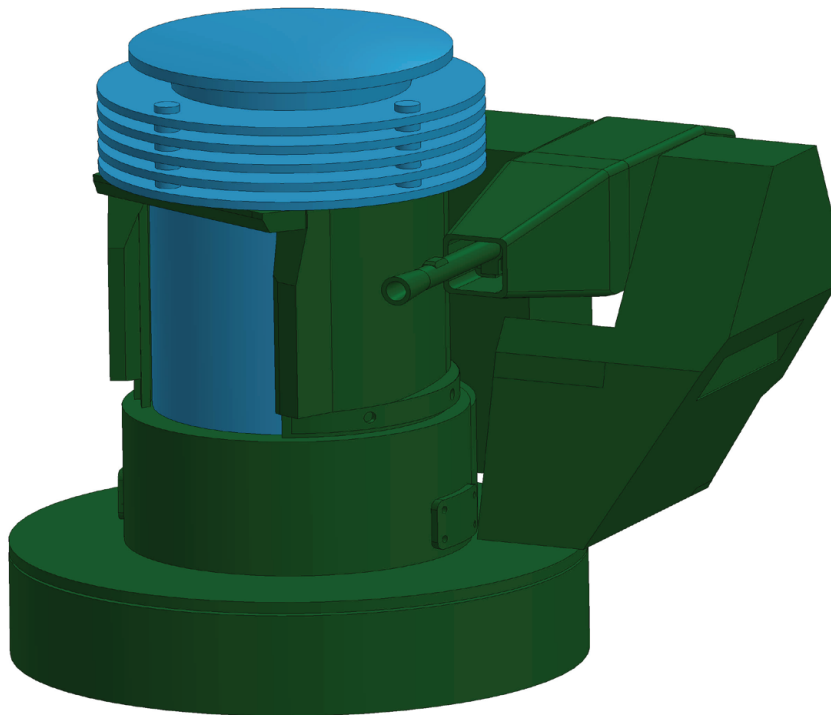
Assembly 14A (MG turret A)

step 8 detail



Correct alignment of the turret rotation parts. The position of part 14A-10 and the bearing can be changed as required by loosening the M2x8mm screw in part 14A-09.

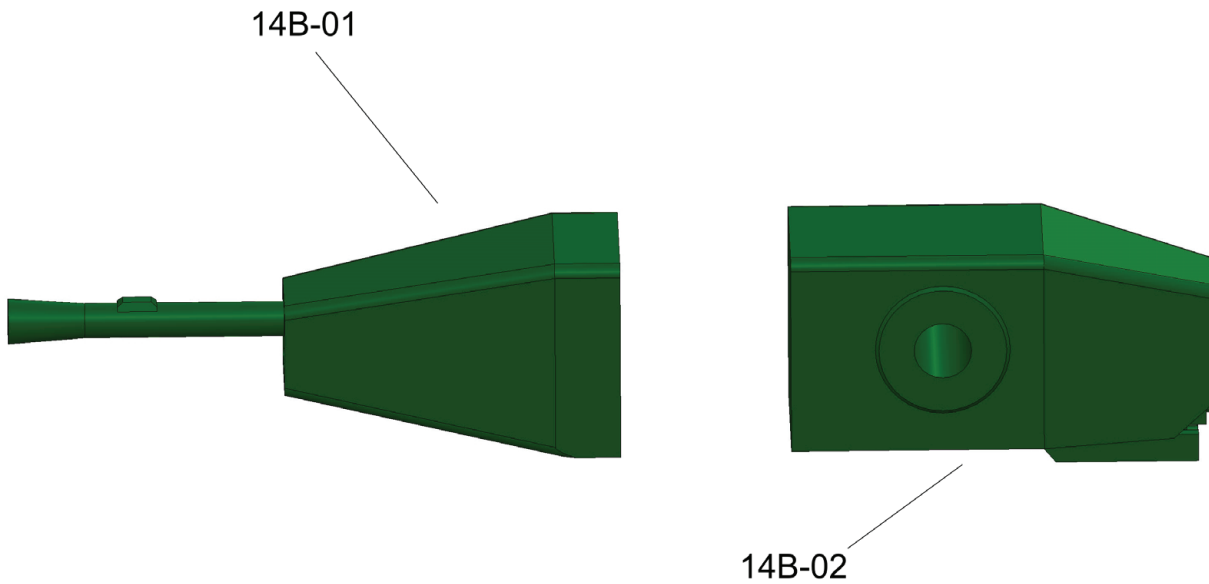
Assembly 14B (MG turret B)



AMOUNT:	1
PRINTED PARTS:	14B-01 (1x), 14B-02 (1x), 14B-03 (1x), 14B-04 (1x), 14B-05 (1x), 14B-06 (1x), 14B-07 (1x), 14B-08 (1x).
OPTIONAL PRINTED PARTS:	
NON-PRINTED PARTS:	M2 nut (2x), 3x30mm pin, Heng-Long® or Torro® Infrared Battlesystem Receiver, JST 3-pin female connector (1x).
OPTIONAL NON-PRINTED PARTS:	

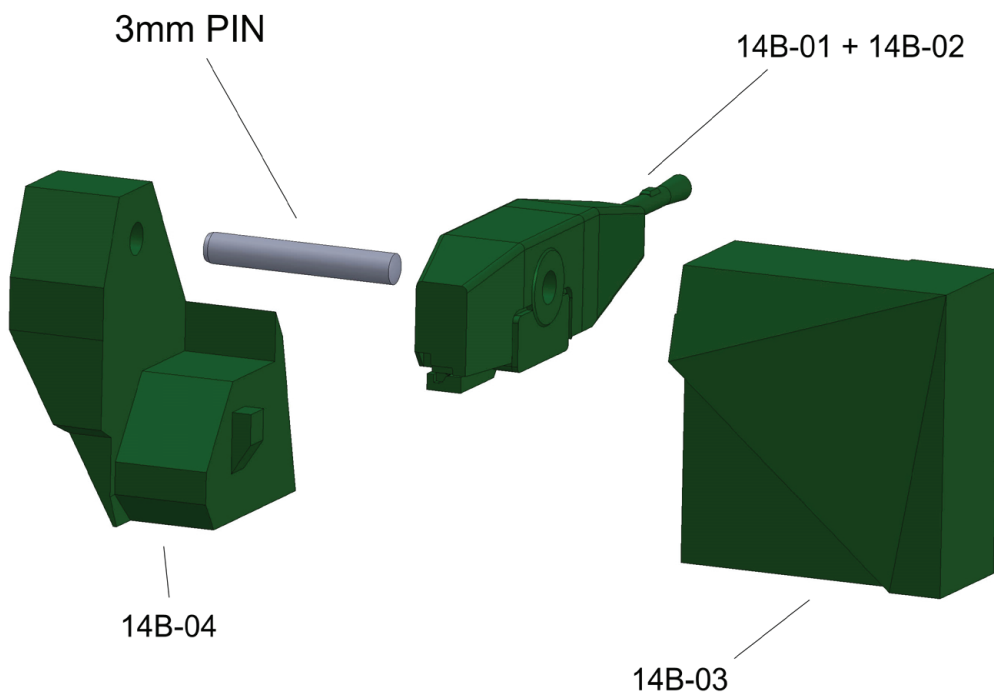
Assembly 14B (MG turret B)

step 1



Glue parts 14B-01 and 14B-02 together.

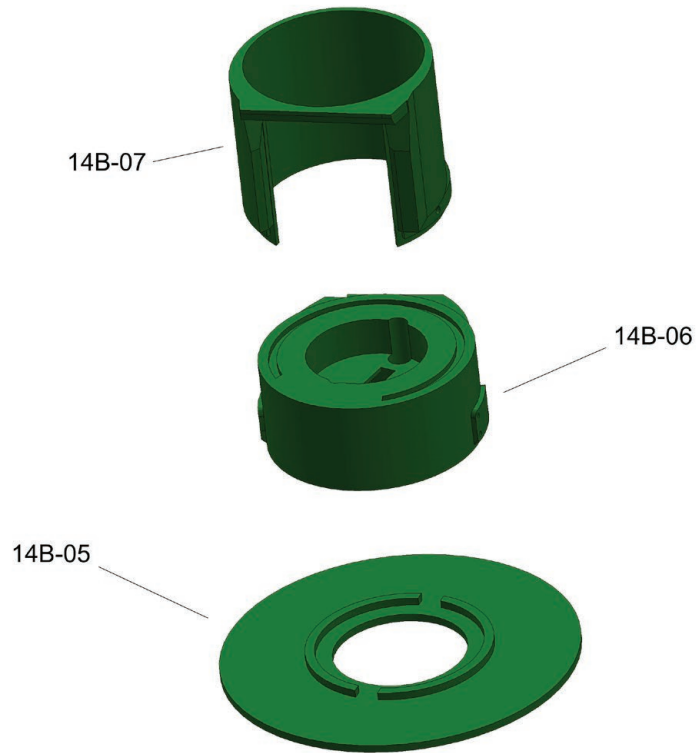
step 2



Attach parts 14B-03 and 14B-04 using a 3mm pin with a length of 25-30mm.

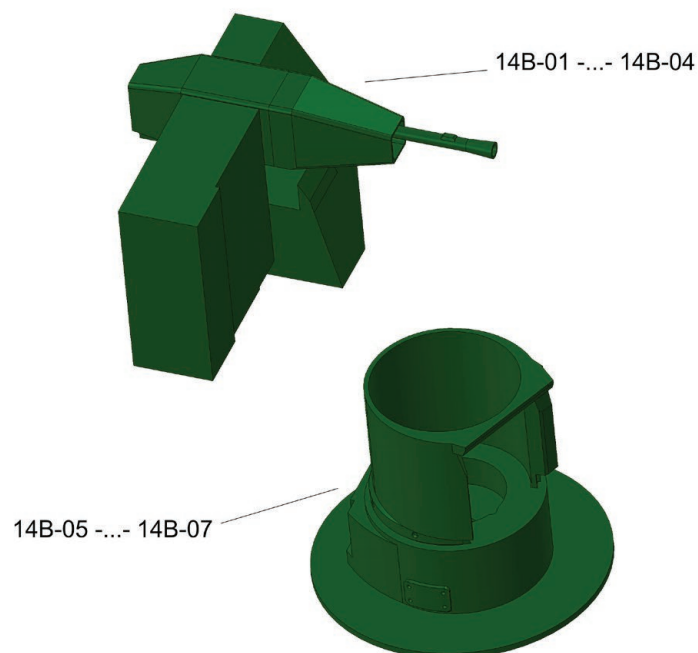
Assembly 14B (MG turret B)

step 3



Glue parts 14B-05, 14B-06 and 14B-07.

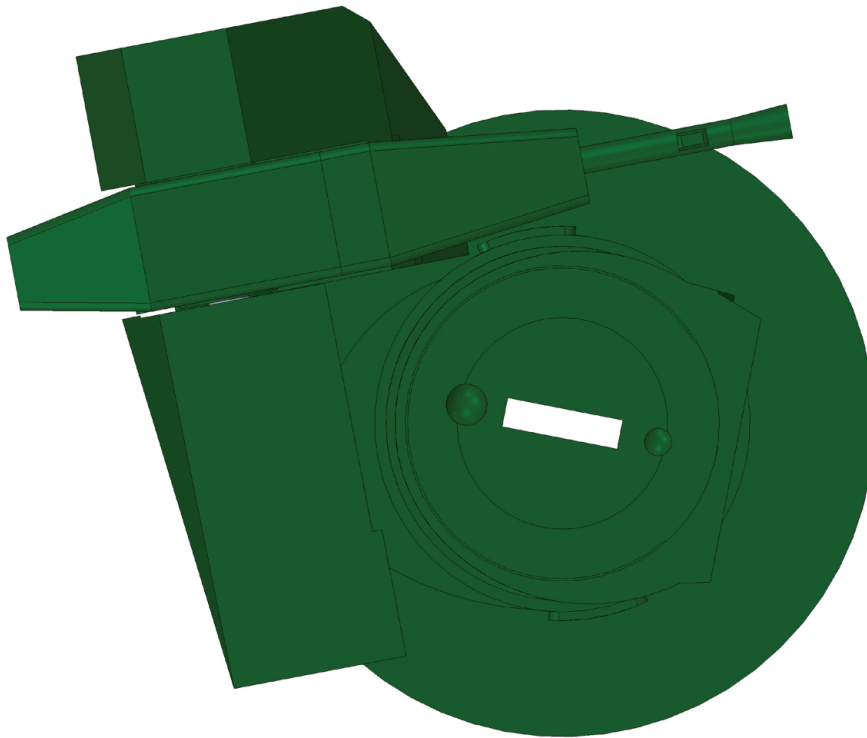
step 4



Glue the assembly of parts 14B-01 to 14B-04 to the assembly of parts 14B-05 to 14B-07.

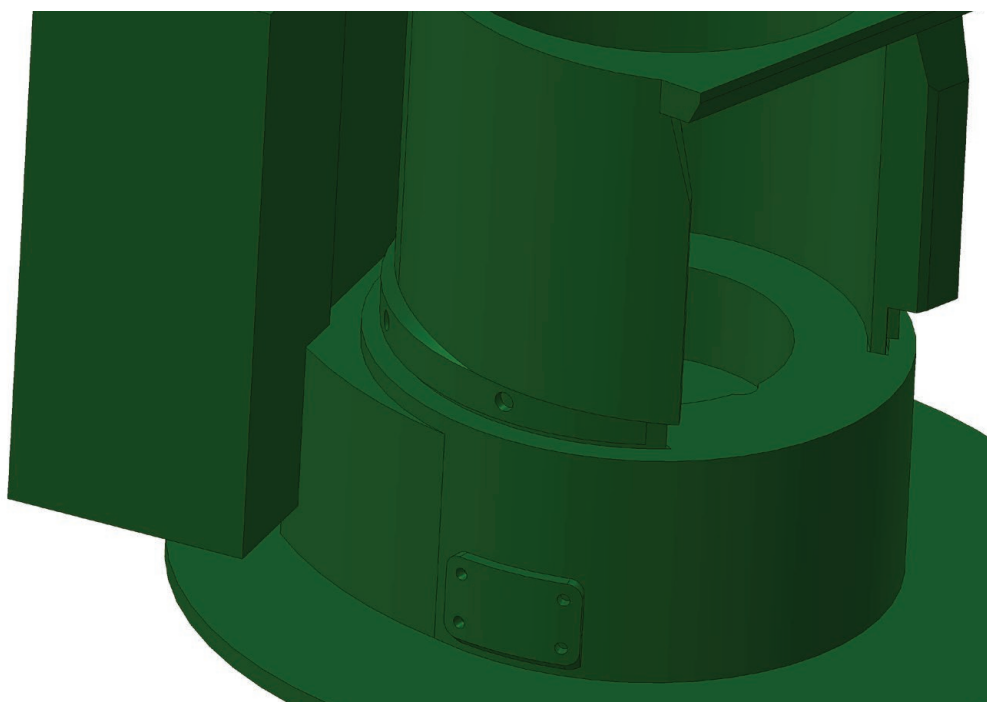
Assembly 14B (MG turret B)

step 4 detail



Correct position of parts 14B-01 to 14B-07.

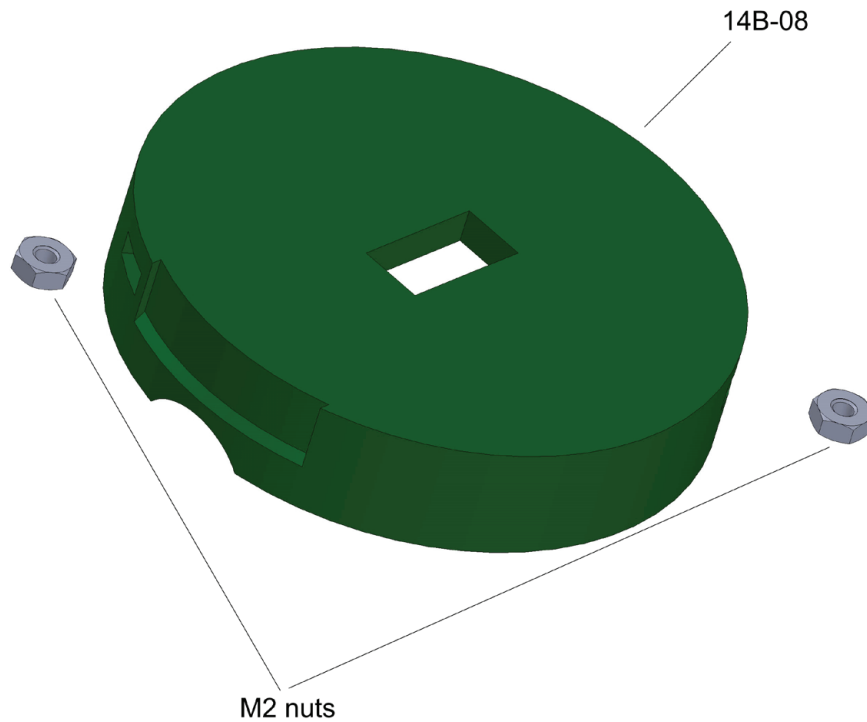
step 4 detail



Correct position of parts 14B-01 to 14B-07.

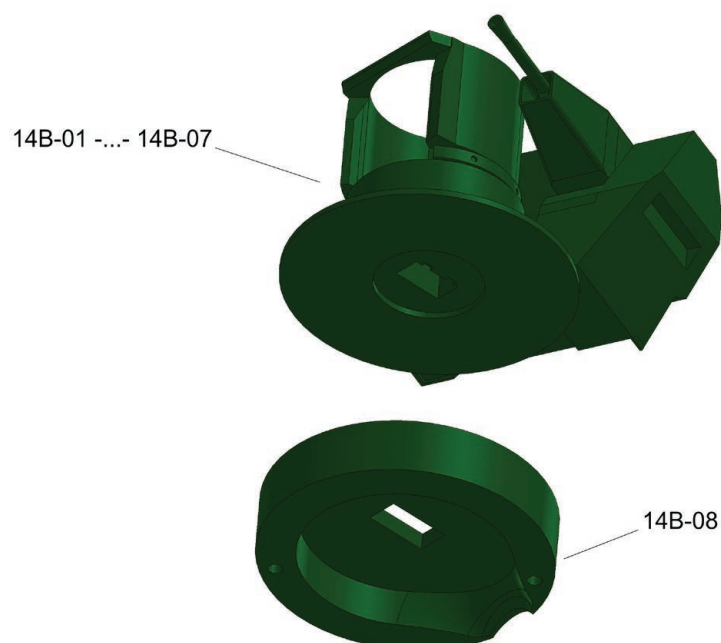
Assembly 14B (MG turret B)

step 5



Drill holes in part 14B-08 with a 2-2.5mm diameter drill bit. Insert two M2 nuts into part 14B-08.

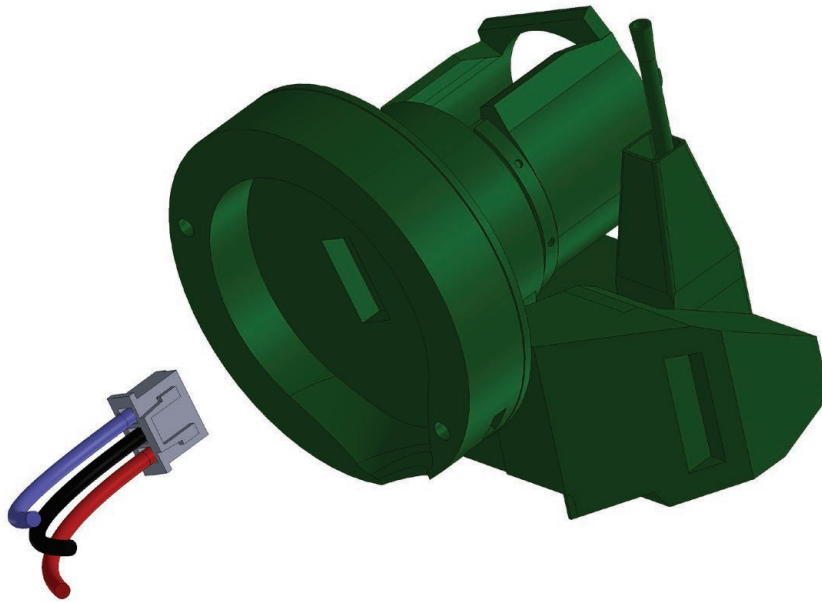
step 6



Glue the whole of parts 14B-01 to 14B-07 with part 14B-08.

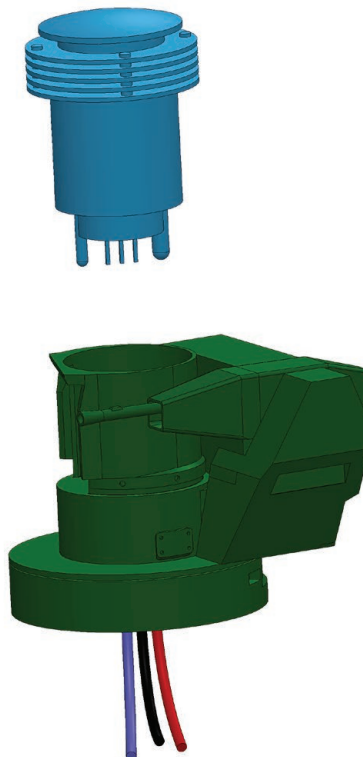
Assembly 14B (MG turret B)

step 7



Insert the wires with the JST connector for your IR Battlesystem into part 14B-08.

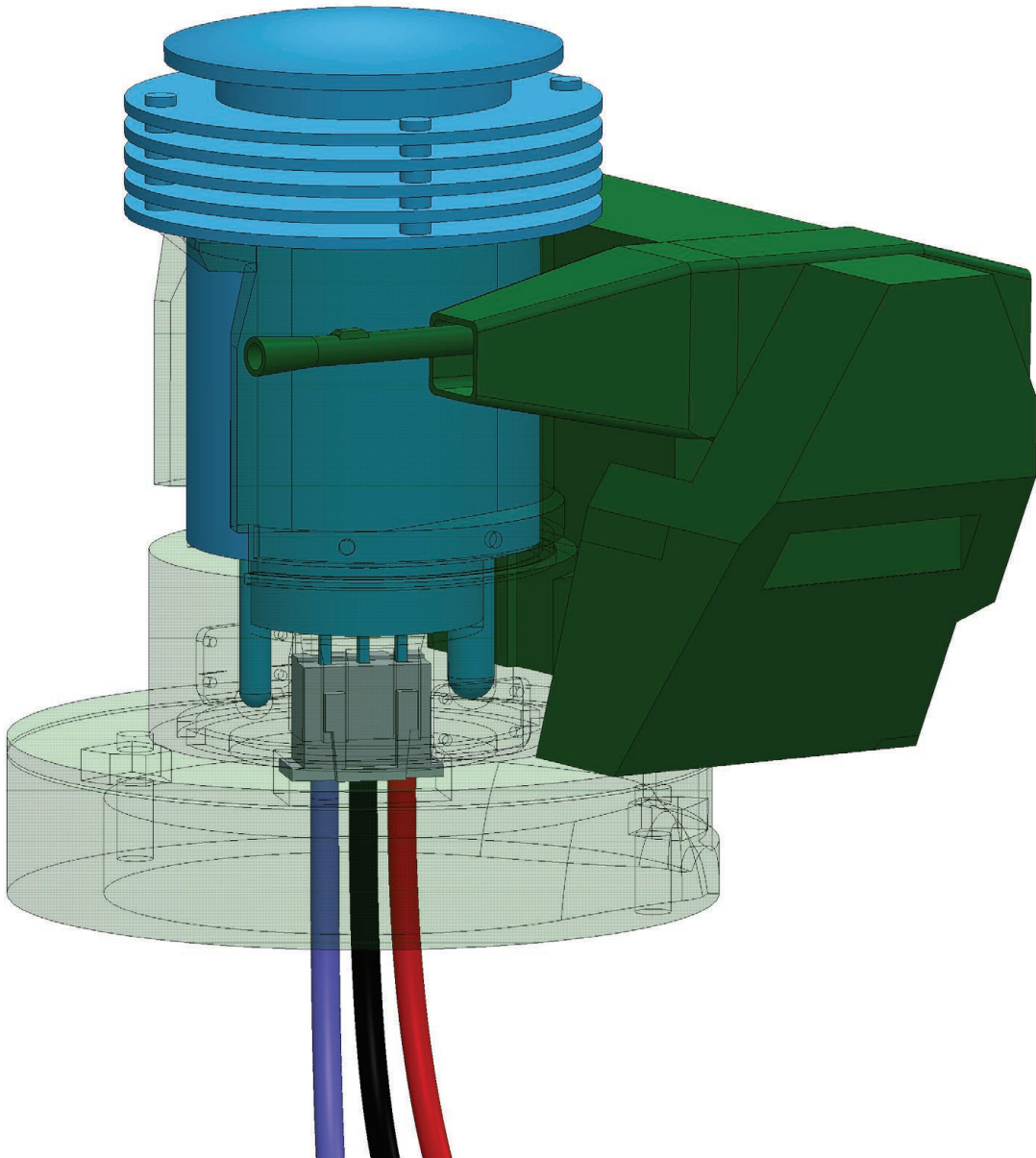
step 8



Finally, connect the receiver for the IR Battlesystem.
Check the correct connection of the individual wires.

Assembly 14B (MG turret B)

step 8 detail



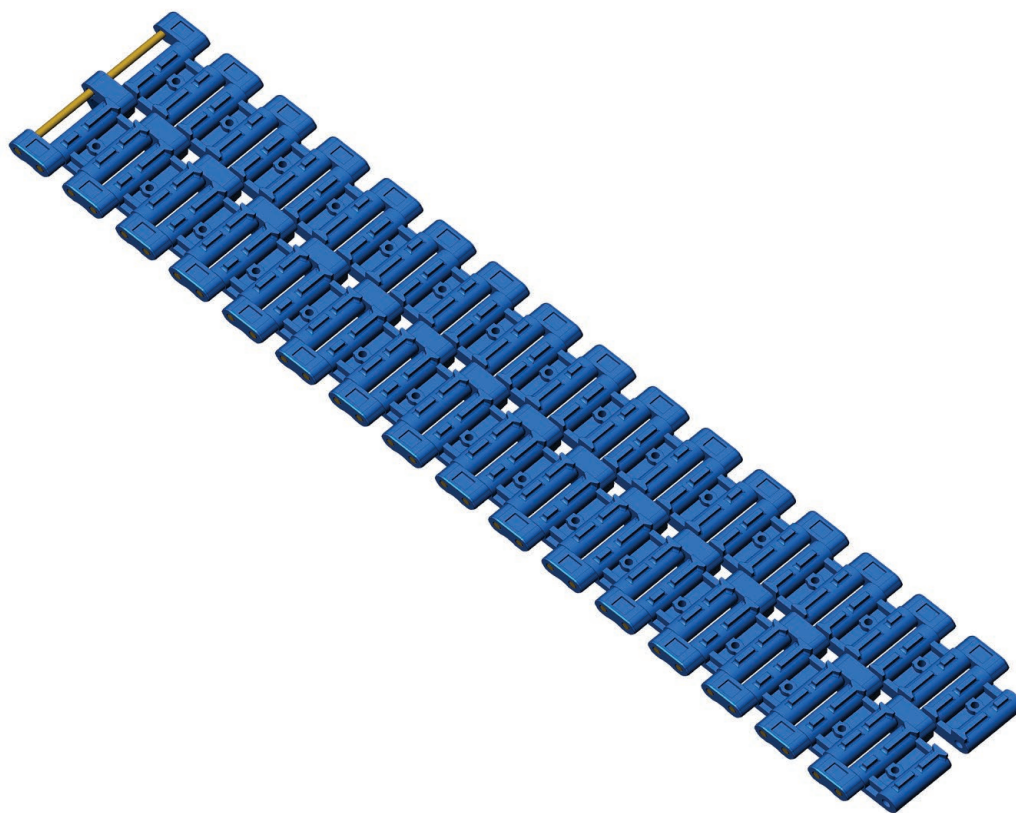
Correct wiring for IR Battlesystem.

Red: +4,5V

Black: ground

Blue: signal

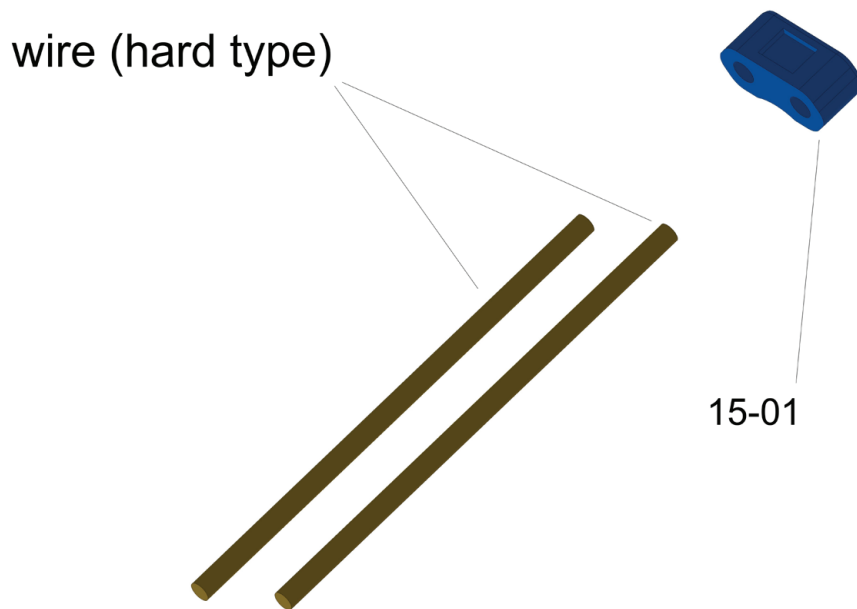
BLOCK 15 (tracks)



AMOUNT:	2
PRINTED PARTS:	15-01 (2x168), 15-02 (2x168), 15-03 (2x84).
OPTIONAL PRINTED PARTS:	15-01_1.5mm (2x168), 15-02_1.5mm (2x168), 15-03_1.5mm (2x84).
NON-PRINTED PARTS:	wire 1,6x38,5mm (2x168)
OPTIONAL NON-PRINTED PARTS:	wire 1,5x38,5mm (2x168)
NOTES:	use any type of wire

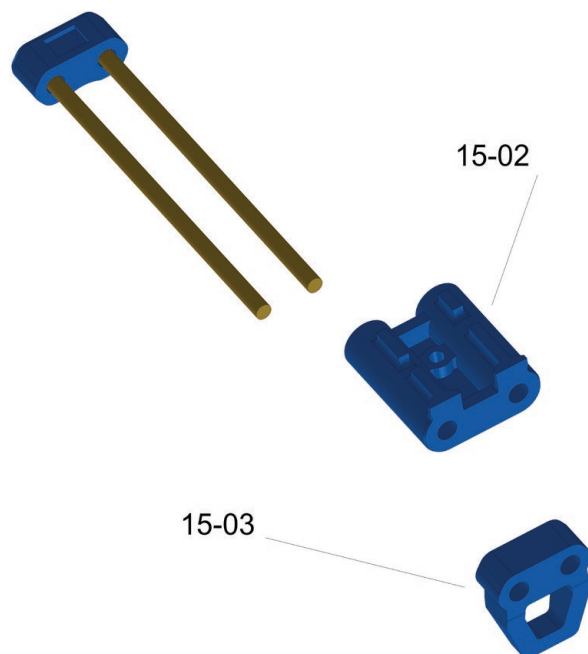
BLOCK 15 (tracks)

step 1



Insert the two 38.5 mm long wires into part 15-01. The holes in part 15-01 must be tight. The joint must hold firmly. We recommend that the wires are taped in place with a hammer and glued in place at the same time.

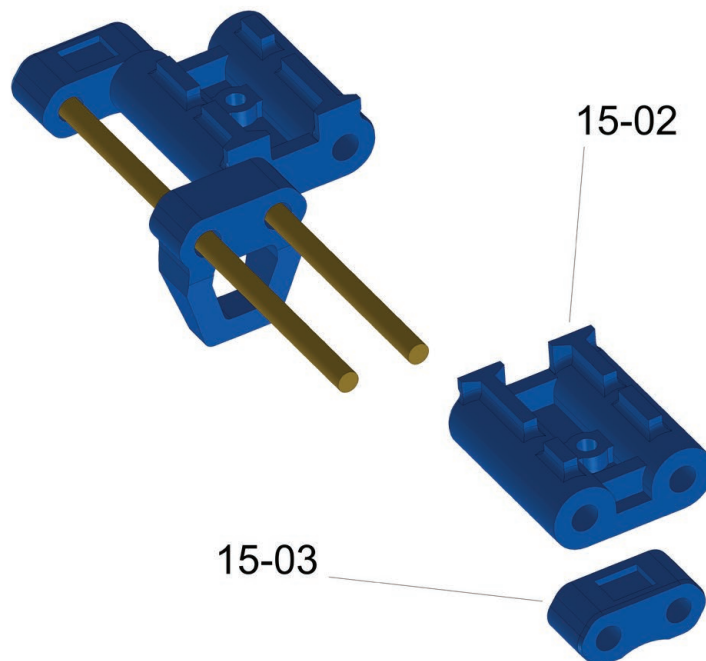
step 2



Insert parts 15-02 and 15-03. Pay attention to the correct orientation of the parts.

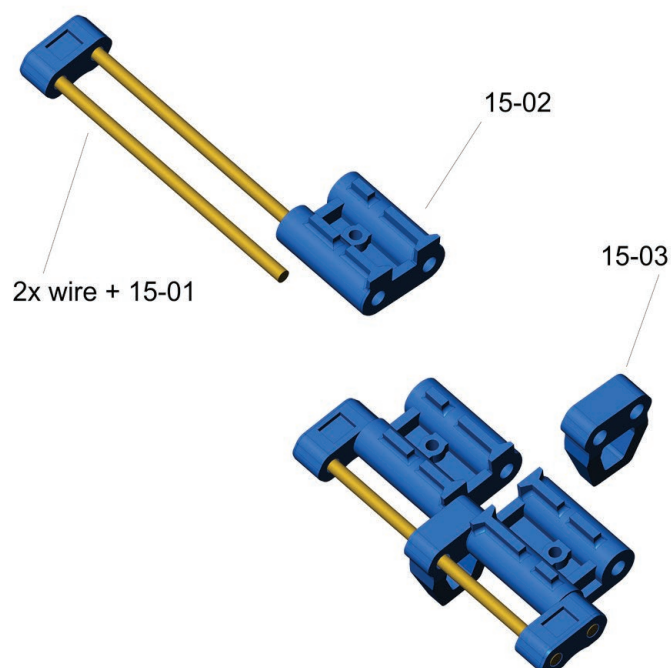
BLOCK 15 (tracks)

step 3



Add another part 15-02 and secure the whole assembly with part 15-03.
Again, it must hold very tightly.
You have finished the first link of the belt.

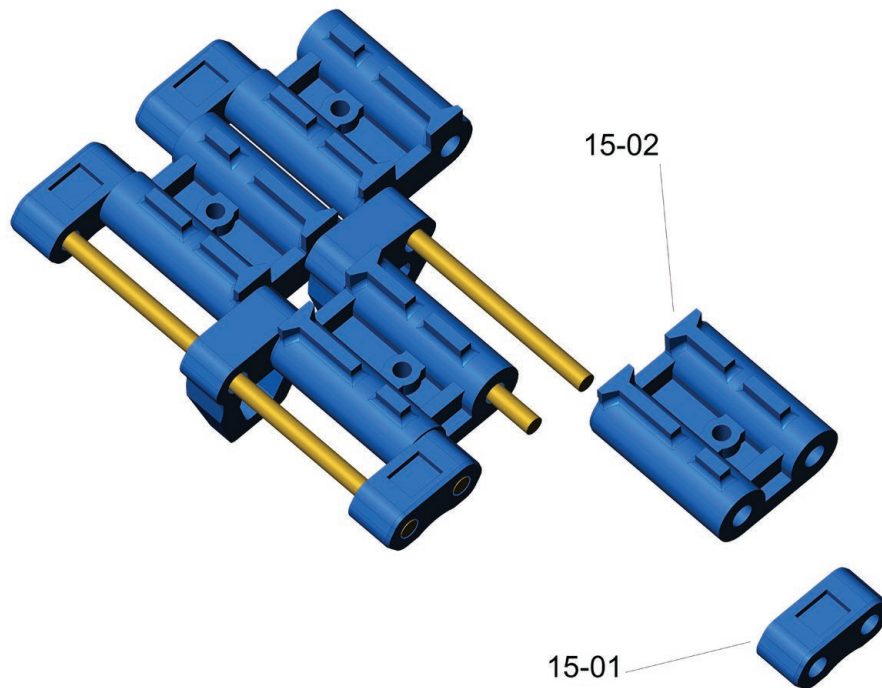
step 4



Add another set of two wires and part 15-01 to the link.
Add parts 15-02 and 15-03 to the loose wire on the new link.

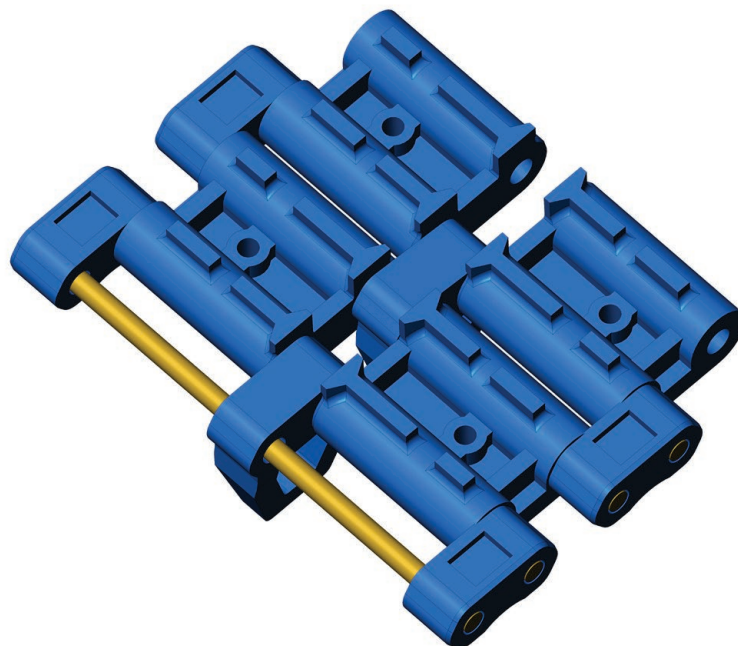
BLOCK 15 (tracks)

step 5

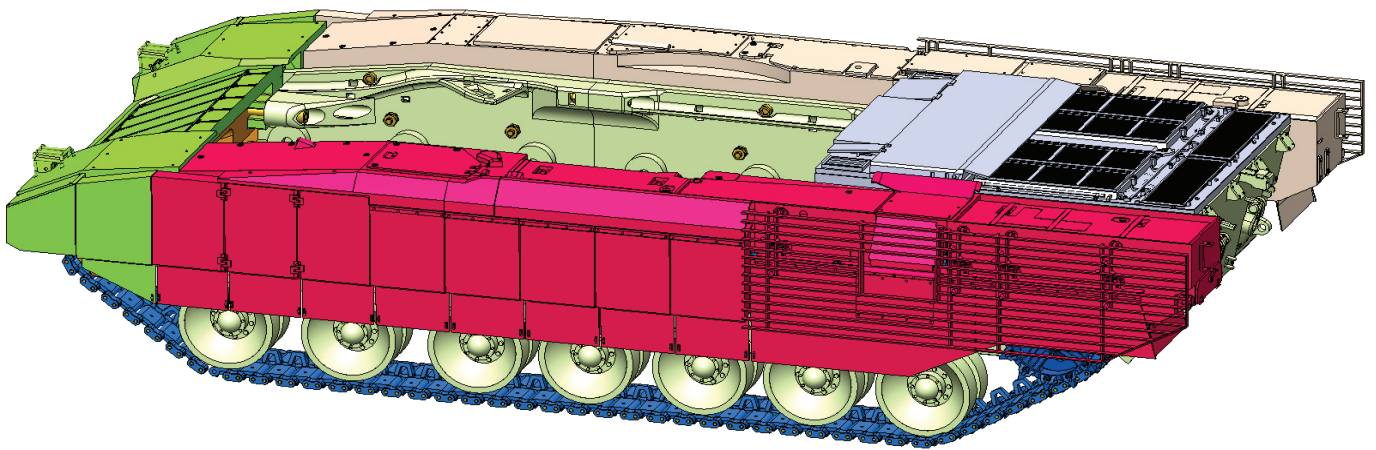


Add another part 15-02 and secure the new link with part 15-01.

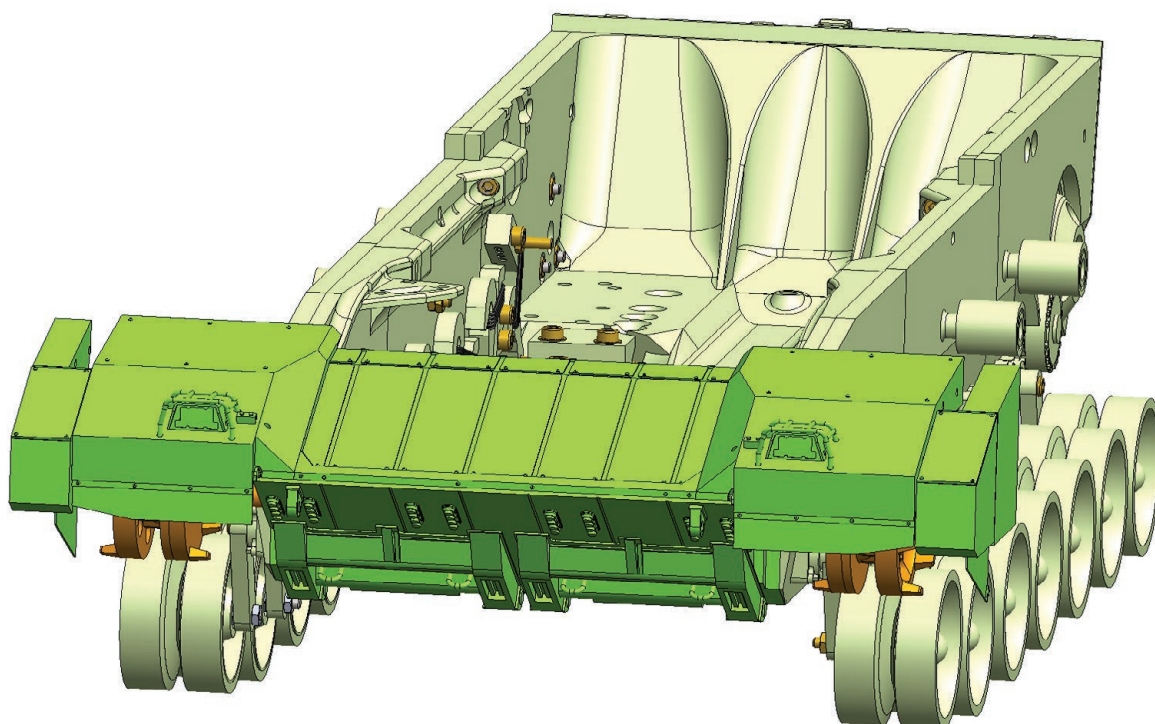
step 6



Repeat steps 4 and 5 to assemble the entire tracks assembly one by one.



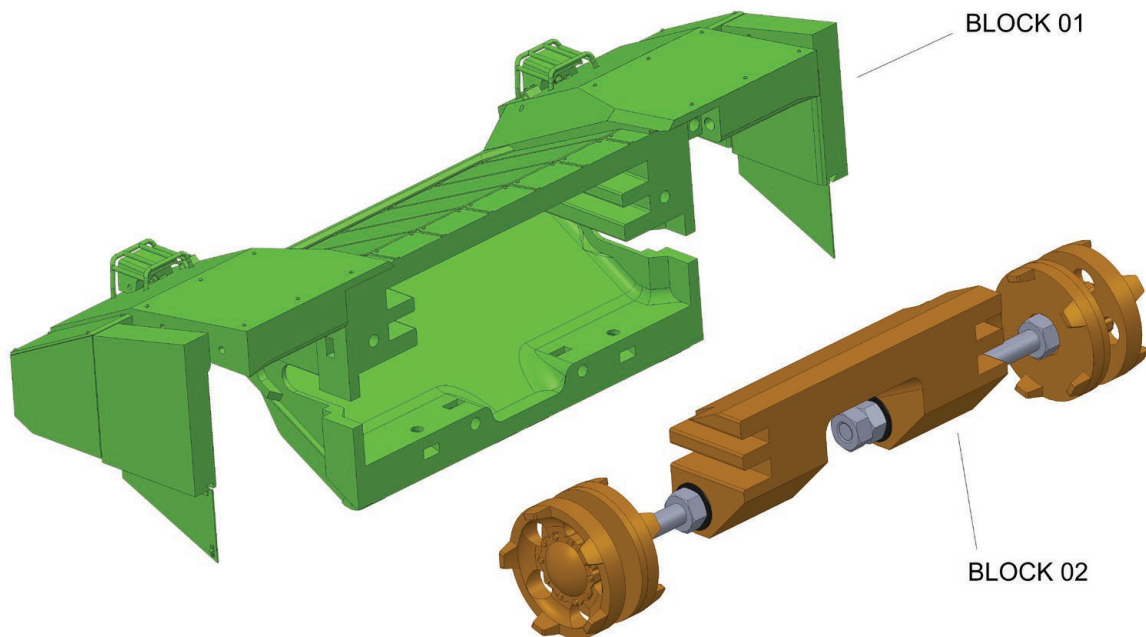
Assembly 03 + Assembly 01/02



AMOUNT:	1
PRINTED PARTS:	Assembly 01, Assembly 02.
NON-PRINTED PARTS:	M4x25 screw (2x), M3x25 screw (4x), M4 nut (2x).
NOTES:	

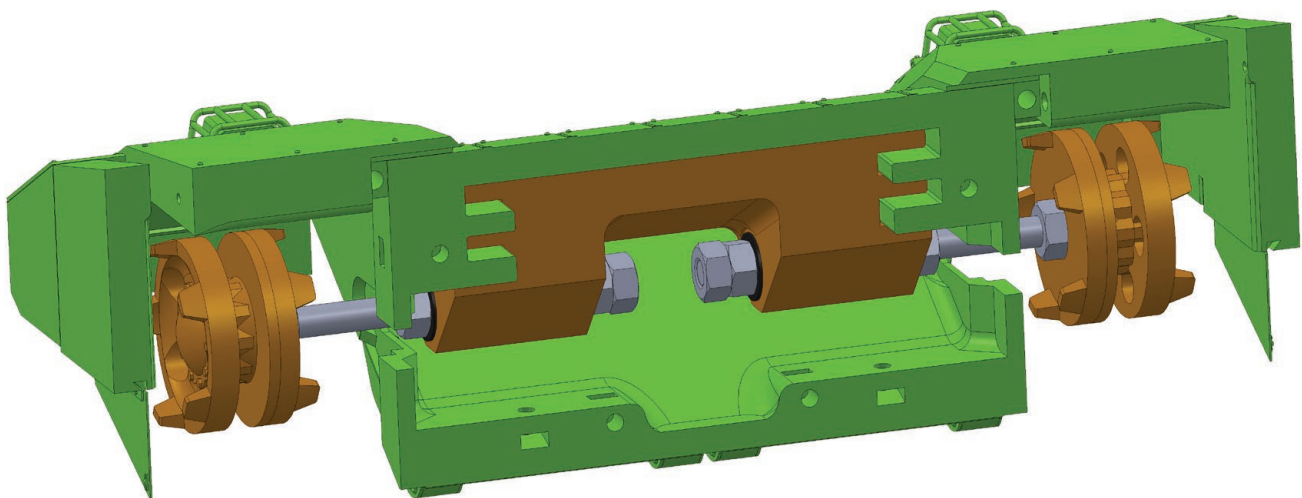
Assembly 03 + Assembly 01/02

step 1



Insert assembly 02 into assembly 01.

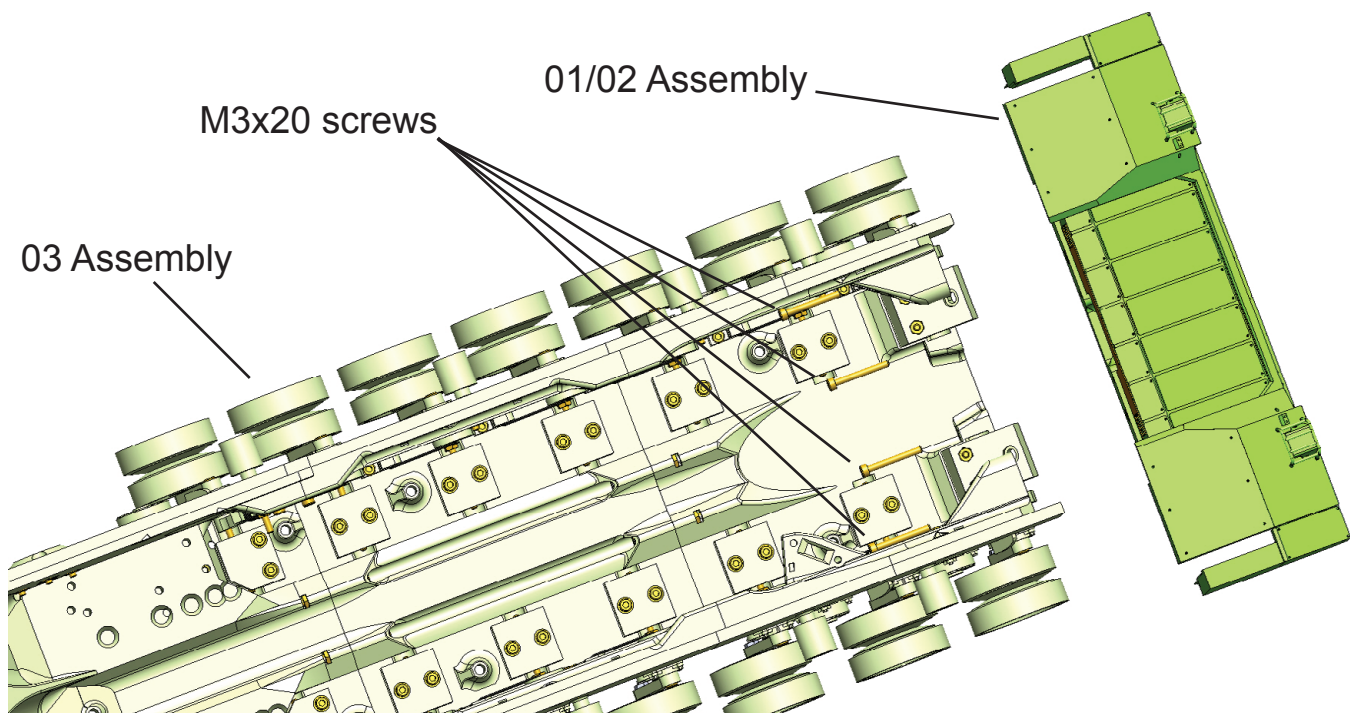
step 1 detail



View of Assembly 01 and Assembly 02.

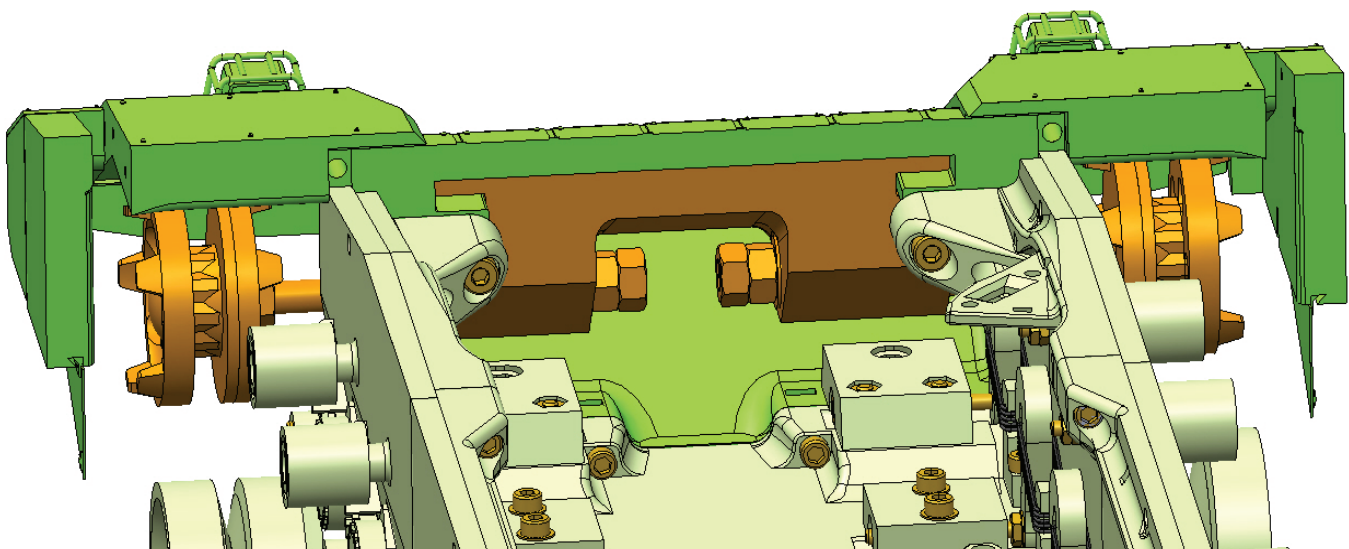
Assembly 03 + Assembly 01/02

step 1 detail



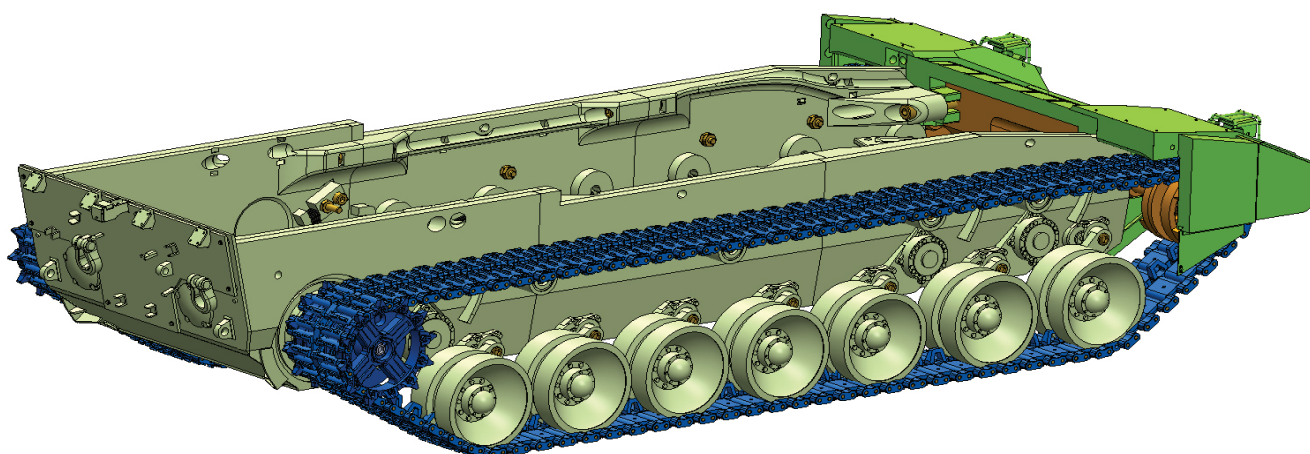
Attach the Assembly 01/02 to the hull using four M3x20mm screws.
Tracks tensioner (Assembly 02) can be adjusted with two M4 screws.

step 1 detail



Detail of the installed parts. Note the M4 screws. They are used to tension the tracks.

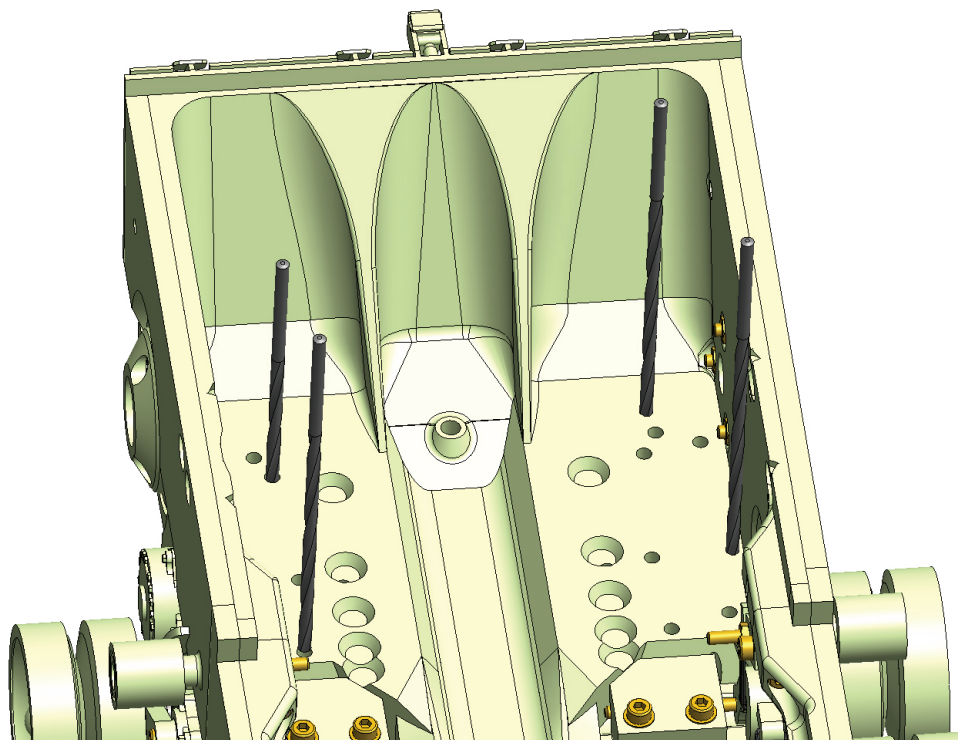
Assembly 03 + Assembly 08/15



AMOUNT:	1
PRINTED PARTS:	Assembly 03, Assembly 08 (2x), Assembly 15 (2x).
NON-PRINTED PARTS:	Heng-Long® or Torro® or compatible Gearboxes (4:1), screws FOR THE GEARBOXES (2x).
NOTES:	<p>Use Assembly 08 of the correct version. Select according to the shaft length of the gearboxes used. We recommend using gearboxes with a 58mm long shaft.</p> <p>The type of screws used depends on the type of gearboxes. Mostly M3 or M4.</p>

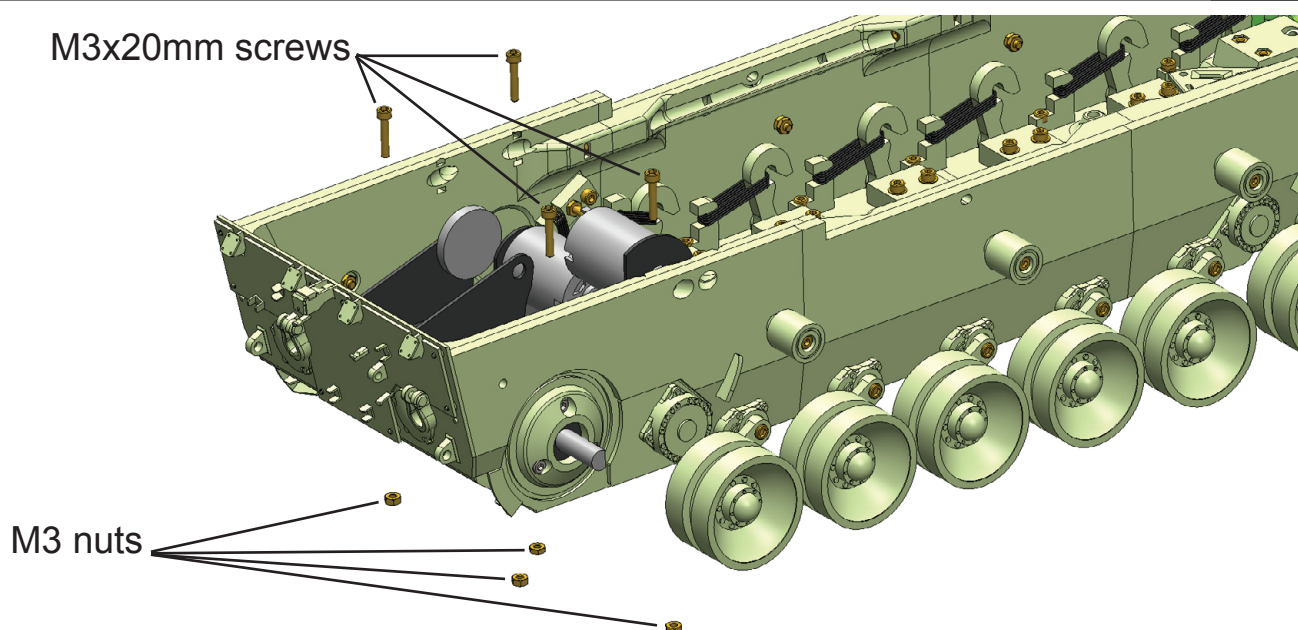
Assembly 03 + Assembly 08/15

step 1



Drill holes suitable for your gearbox. Use a drill bit with a diameter of 3 - 3.5mm.

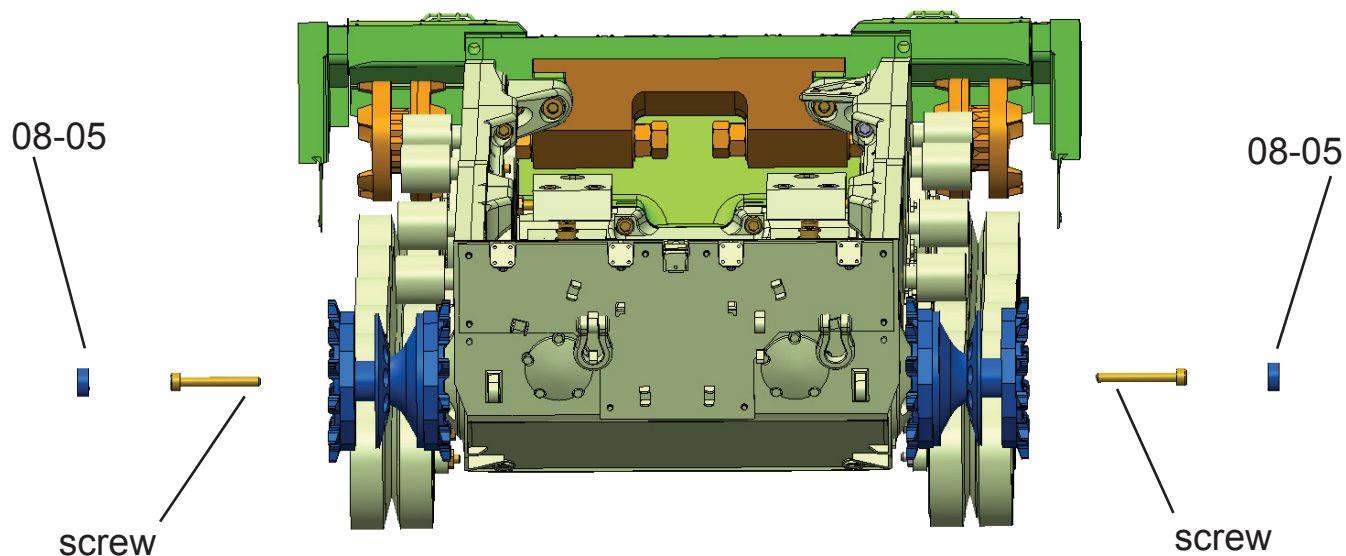
step 1 detail



Install the gearboxes using M3x20mm screws and nuts. Use a minimum of two screws for each gearbox.

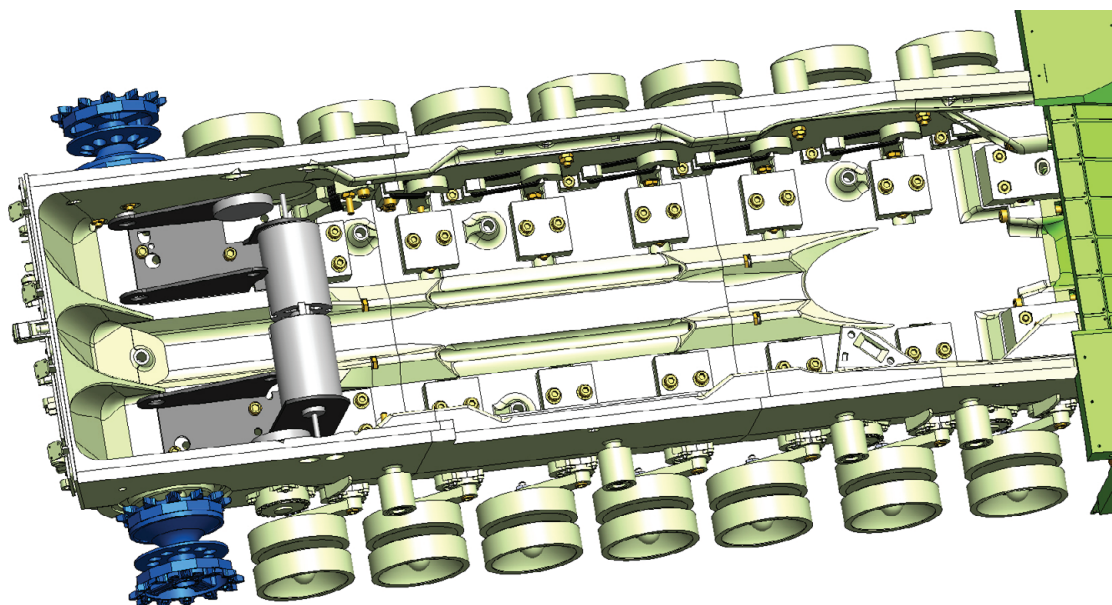
Assembly 03 + Assembly 08/15

step 1



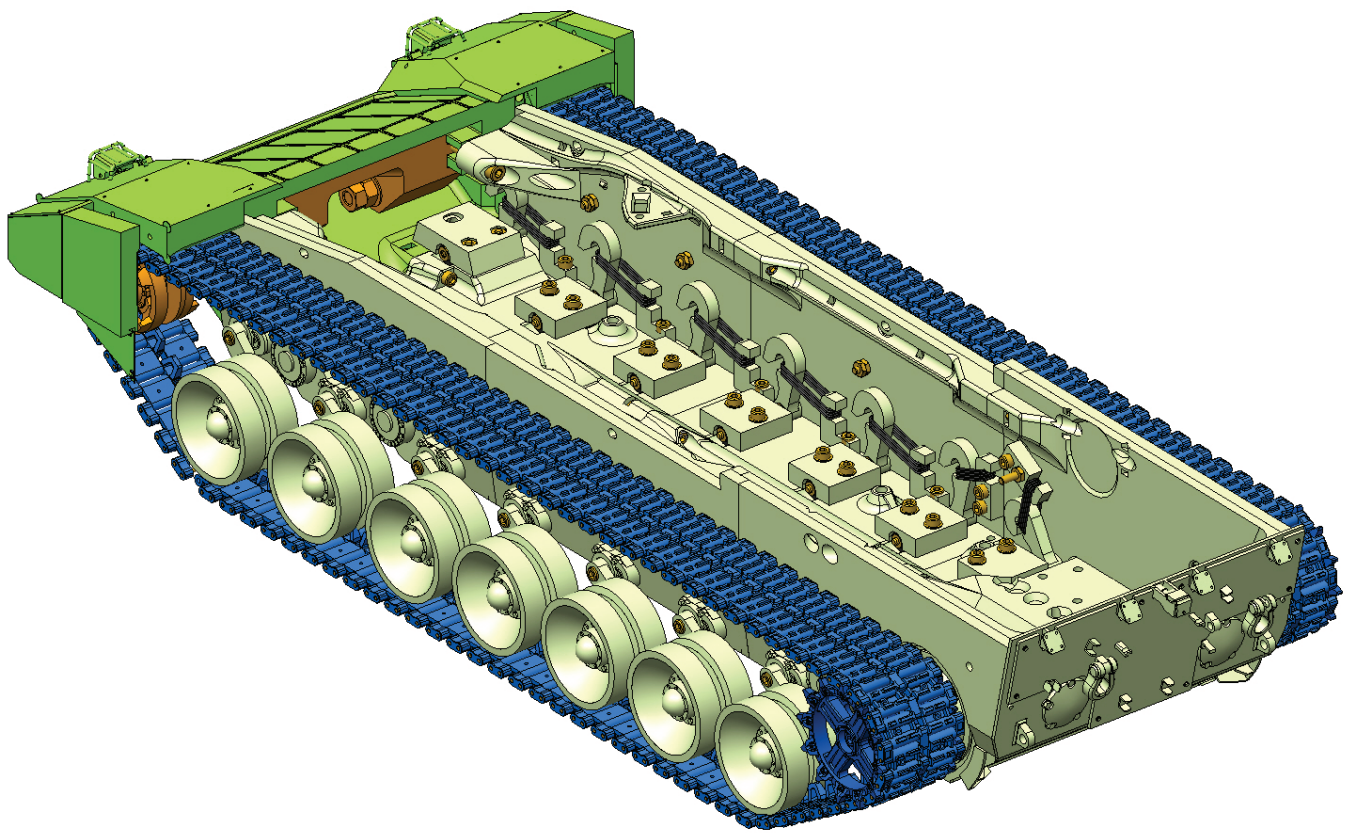
Attach the drive sprockets (Assembly 08) with the screws specified for the specific gearbox. Use the appropriate version of the Assembly 08 wheels.

step 1 detail



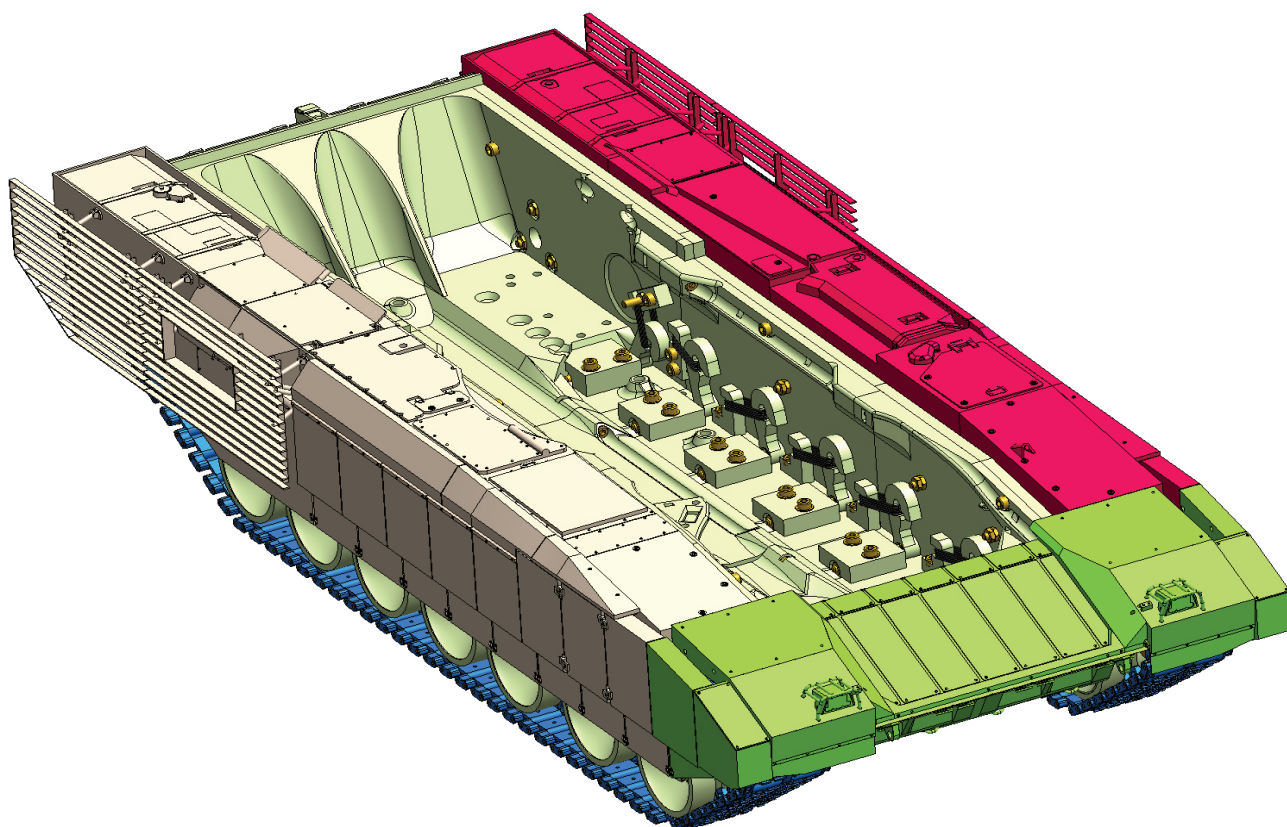
Detail of the installed drive sprockets (Assembly 08).

step 1



Fit the tracks (Assembly 15). Release the tensioners when fitting the belts.

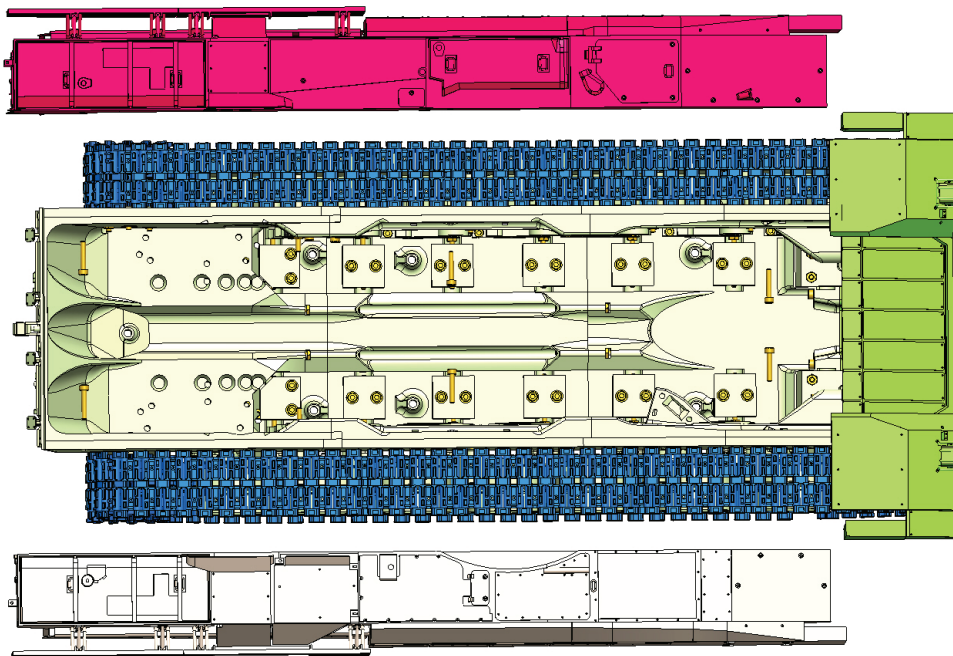
Assembly 03 + Assembly 06/07



AMOUNT:	1
PRINTED PARTS:	Assembly 03, Assembly 06 (1x), Assembly 07 (1x).
NON-PRINTED PARTS:	M3x20mm screw (6x).
NOTES:	

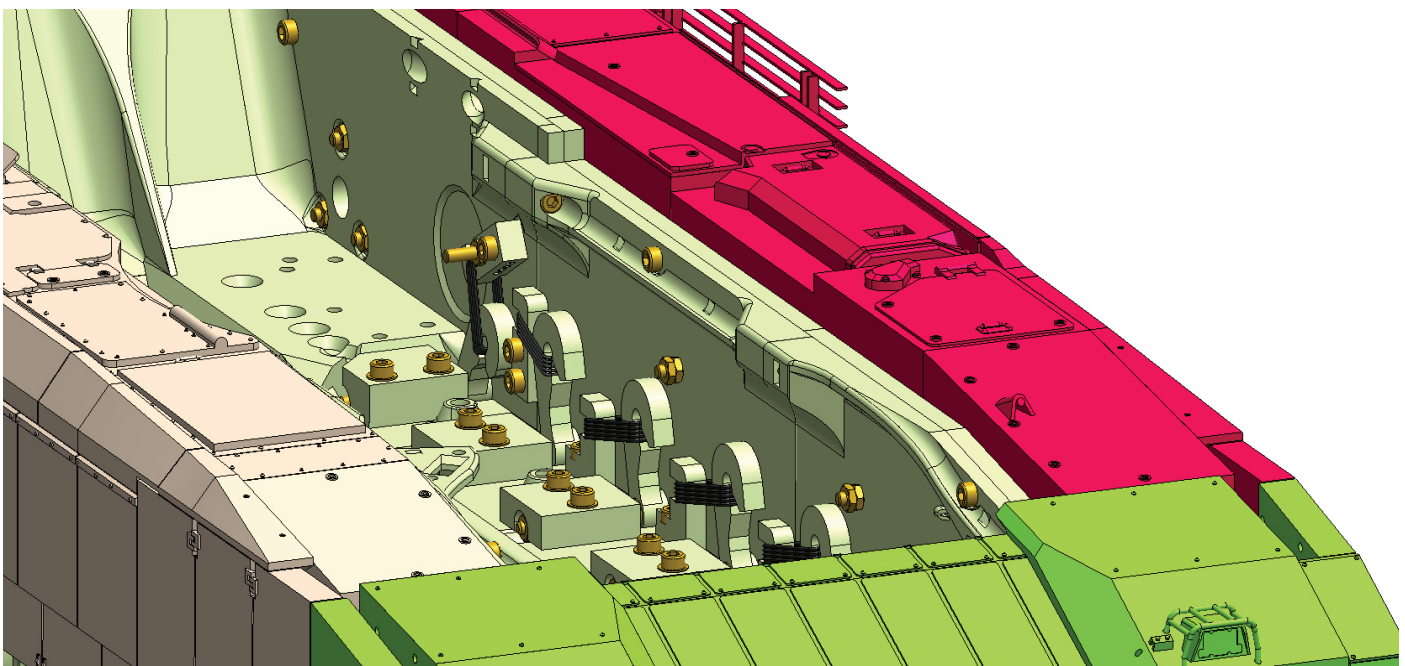
Assembly 03 + Assembly 06/07

step 1



Attach Assembly 06 and Assembly 07 with M3x20mm screws. It is possible to use 3 screws on each side. However, two screws (front and rear) are sufficient.

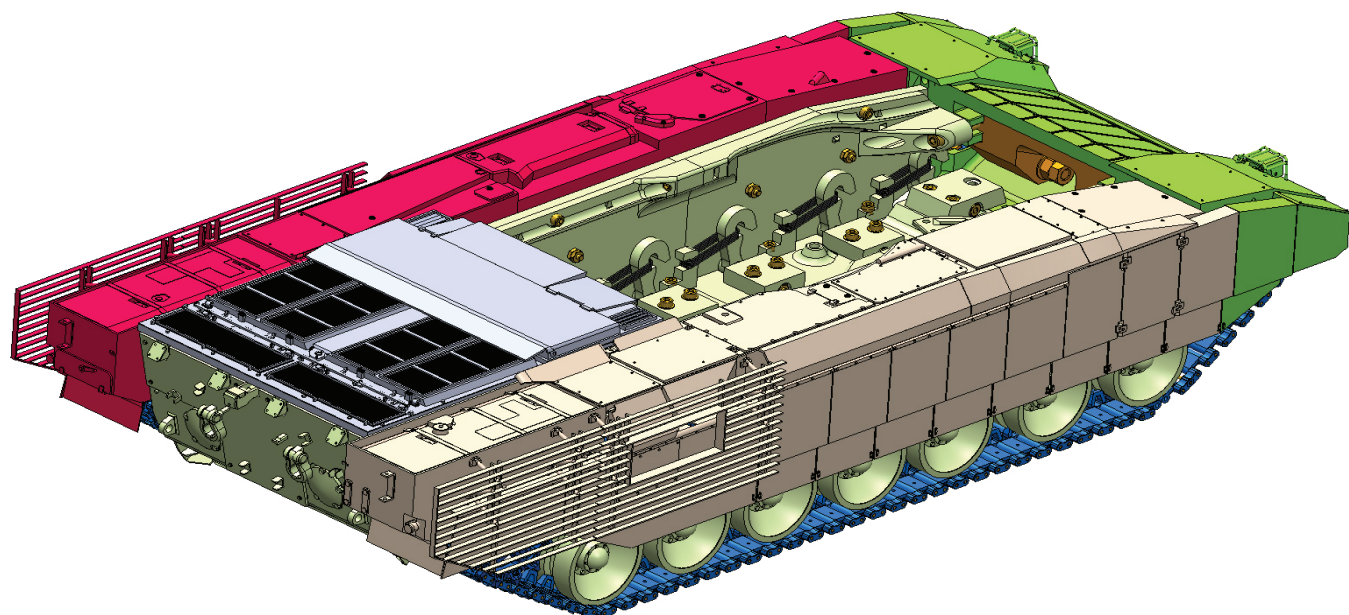
step 1 detail



Detail of the installed fender (Assembly 06).

Never glue Assembly 06 and Assembly 07 to the hull !!!

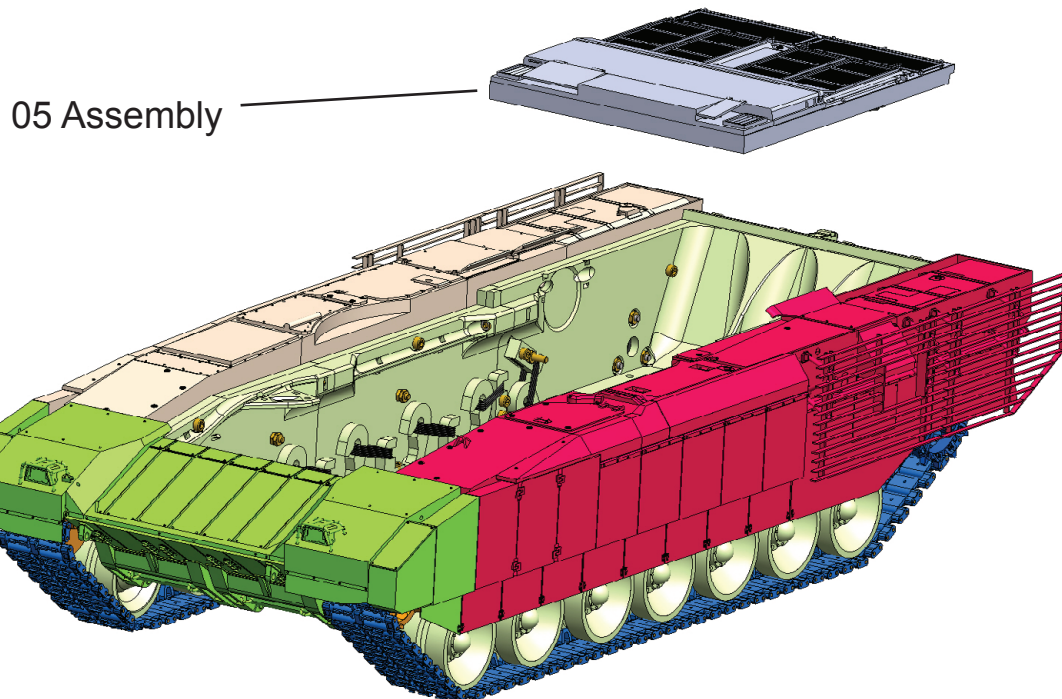
Assembly 03 + Assembly 05



AMOUNT:	1
PRINTED PARTS:	Assembly 03, Assembly 05 (1x).
NON-PRINTED PARTS:	
NOTES:	

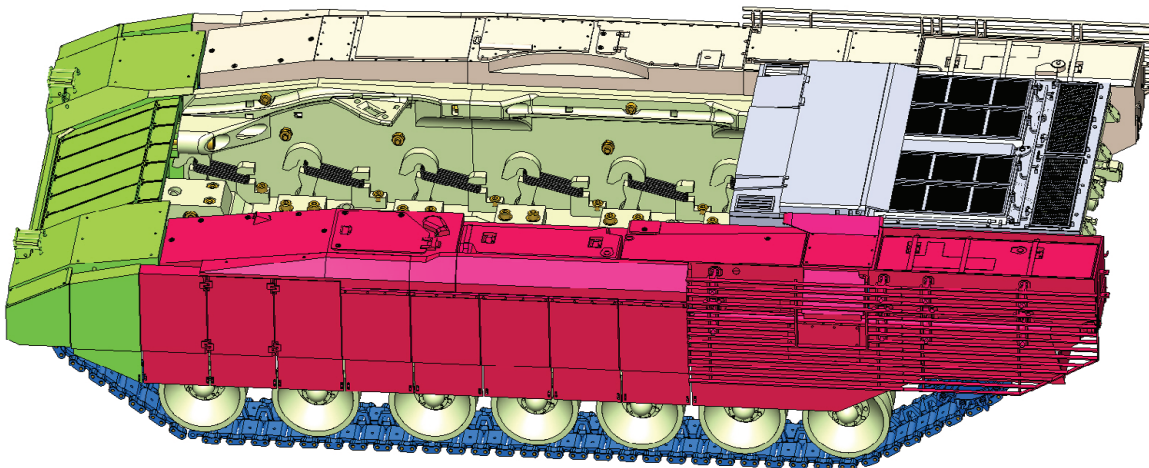
Assembly 03 + Assembly 05

step 1



Fit Assembly 05. It is freely placed over the gearboxes.

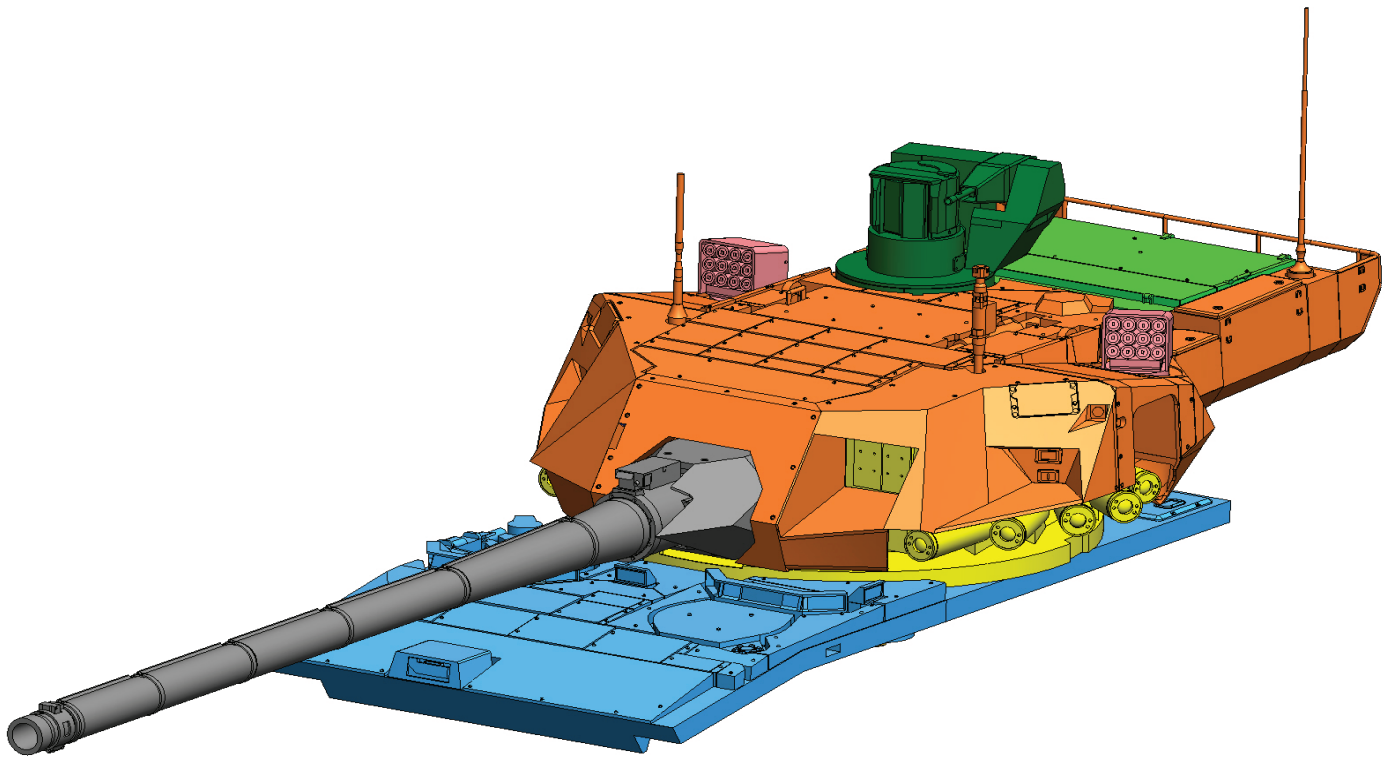
step 1 detail



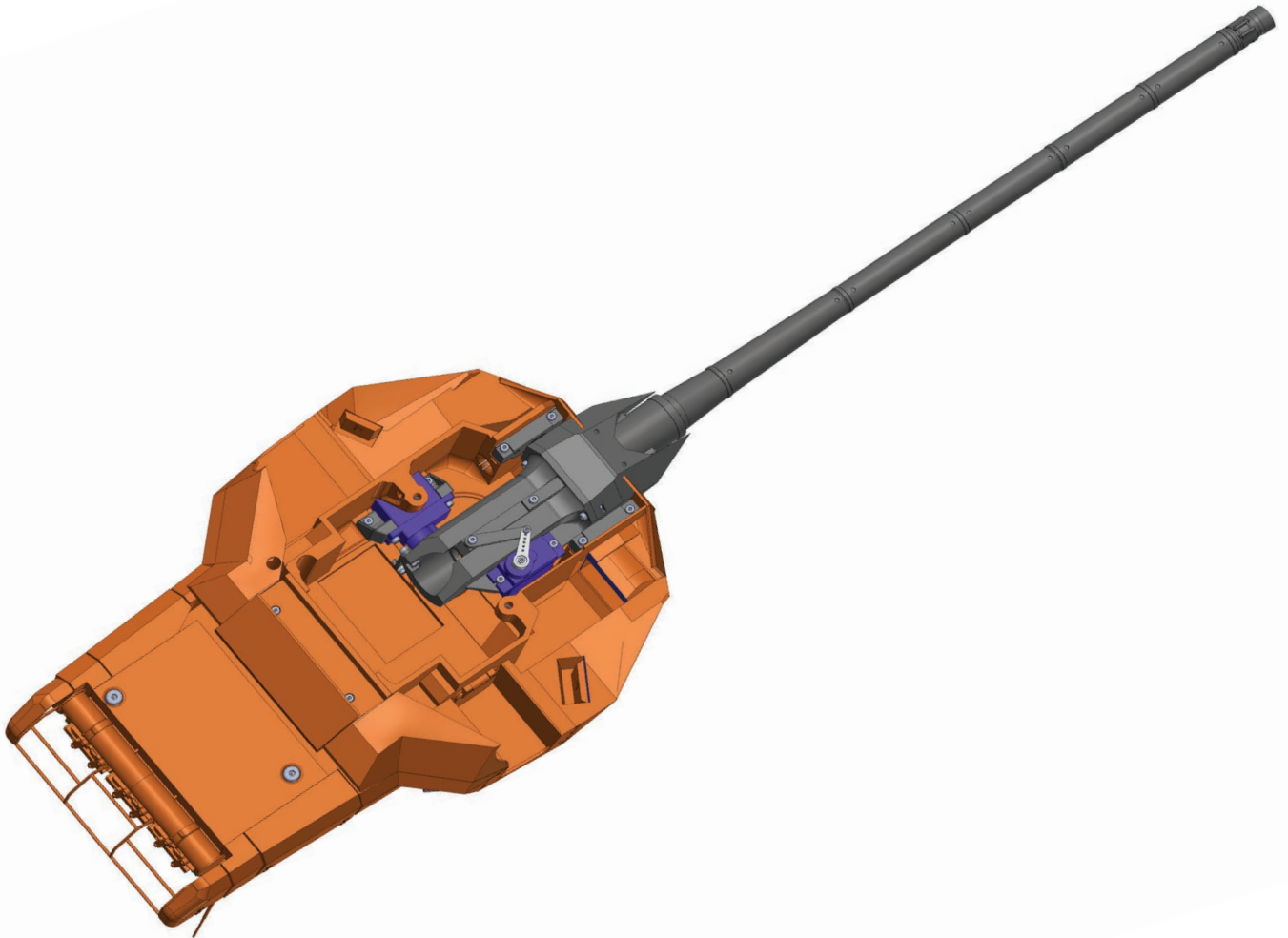
Correct position of the engine cover (Assembly 05).

Never glue Assembly 05 to the hull !!!

TURRET



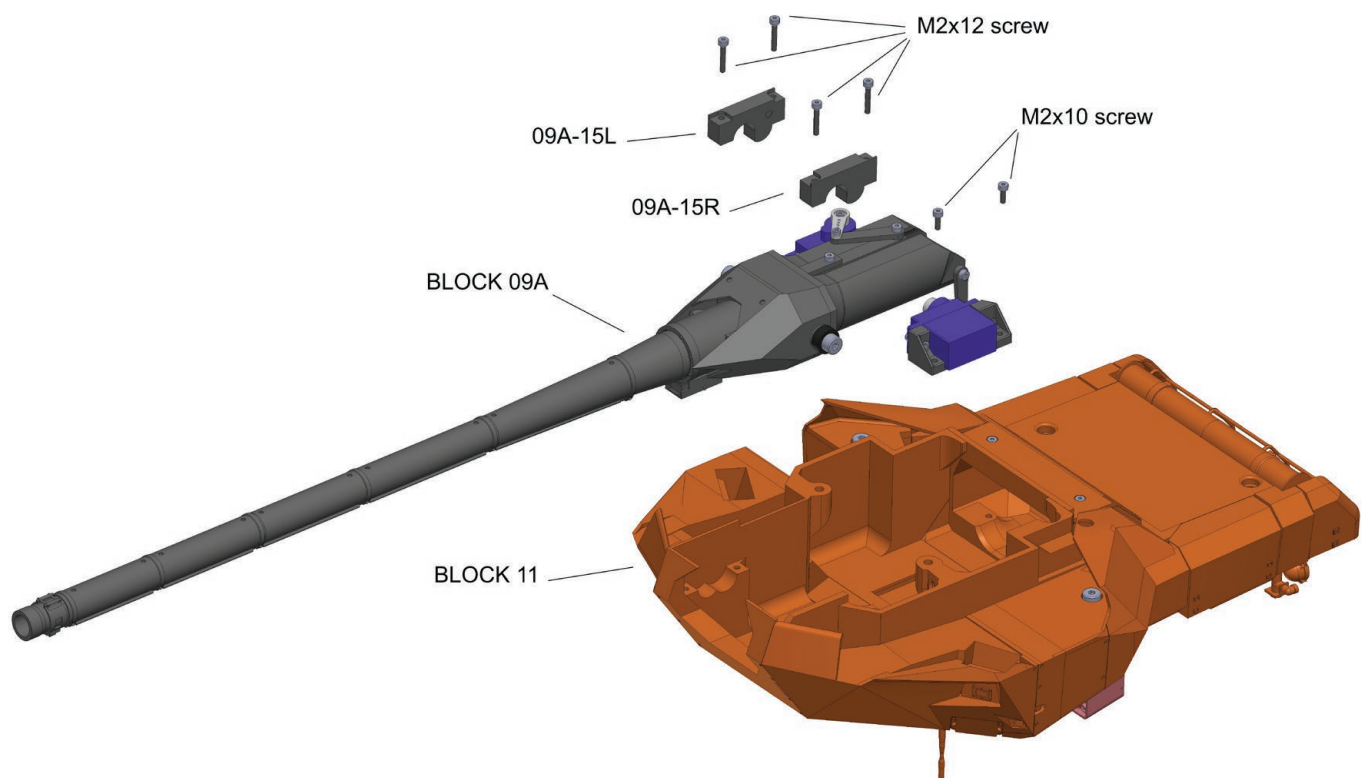
Assembly 11 + Assembly 09A



AMOUNT:	OPTIONAL (1x)
PRINTED PARTS:	Assembly 11, Assembly 09A
NON-PRINTED PARTS:	M2x12 screw (4x), M2x10 screw (2x)
NOTES:	For cannon control using servo motors, we recommend the MTCU control unit by Kim Olsen.

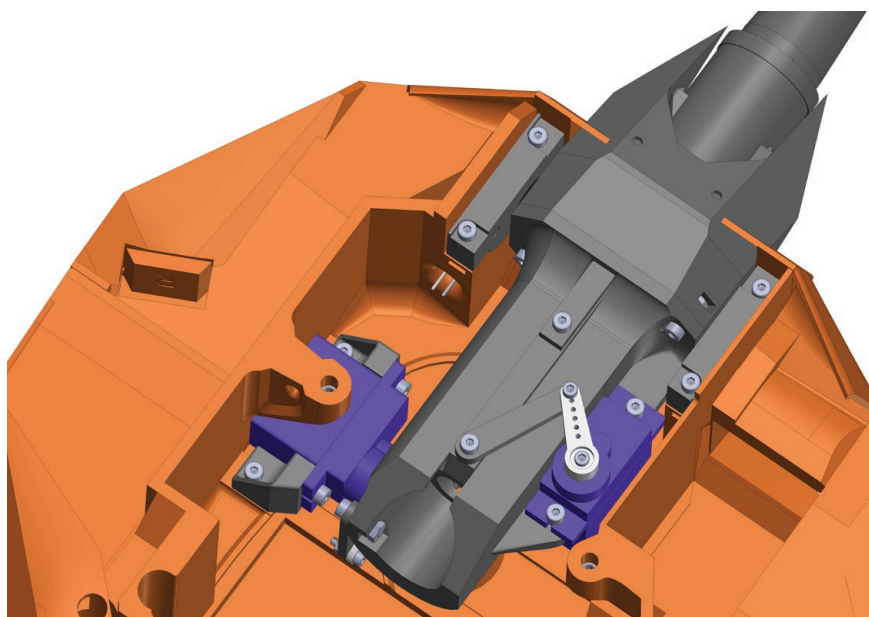
Assembly 11 + Assembly 09A

step 1



Insert the prepared 09A cannon into the turret. Use four M2x12mm screws for parts 09A-15L and 09A-15R. The M2x10mm screws are for the elevation servo.

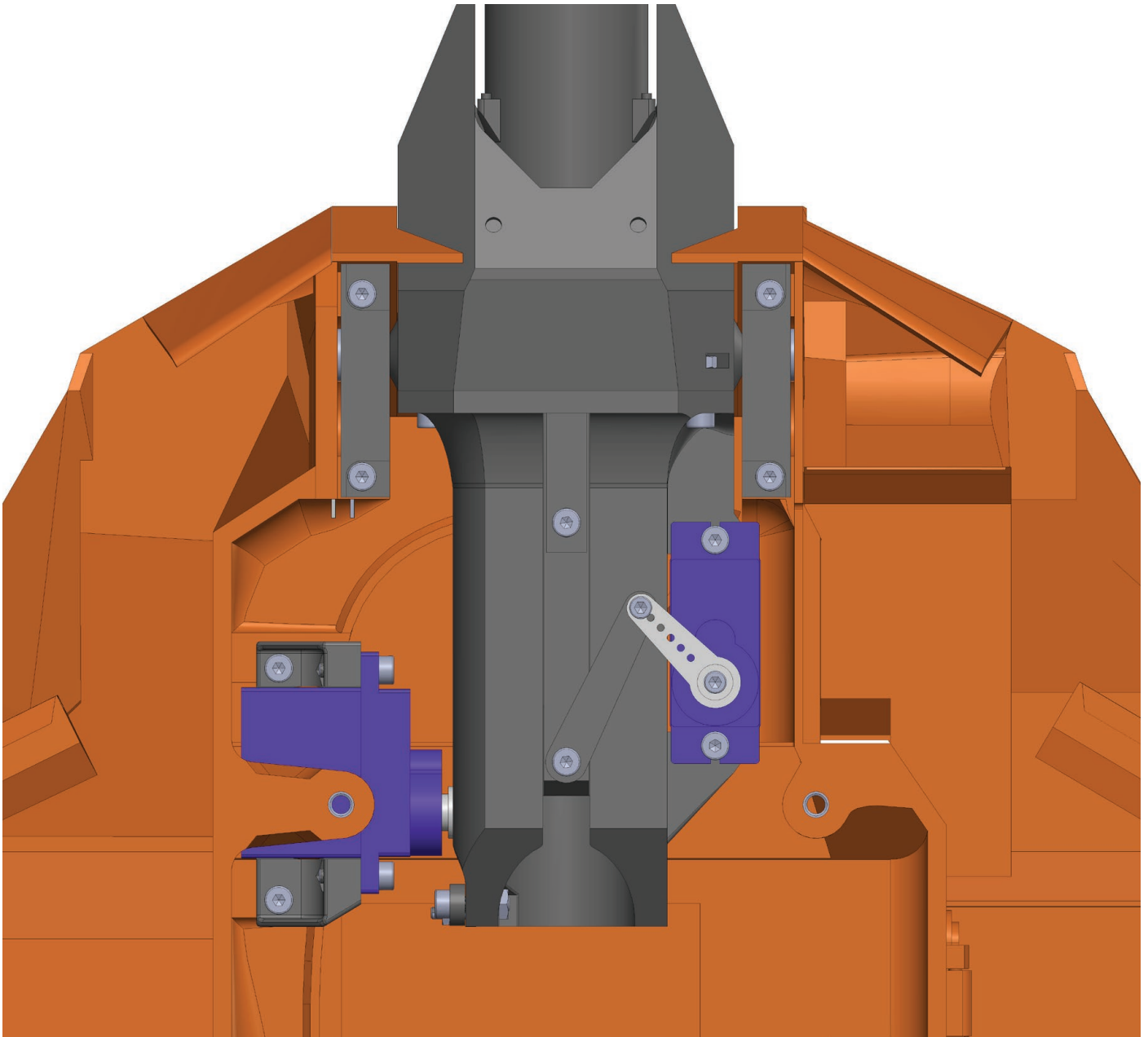
step 1 detail



Detail of installed block 09A.

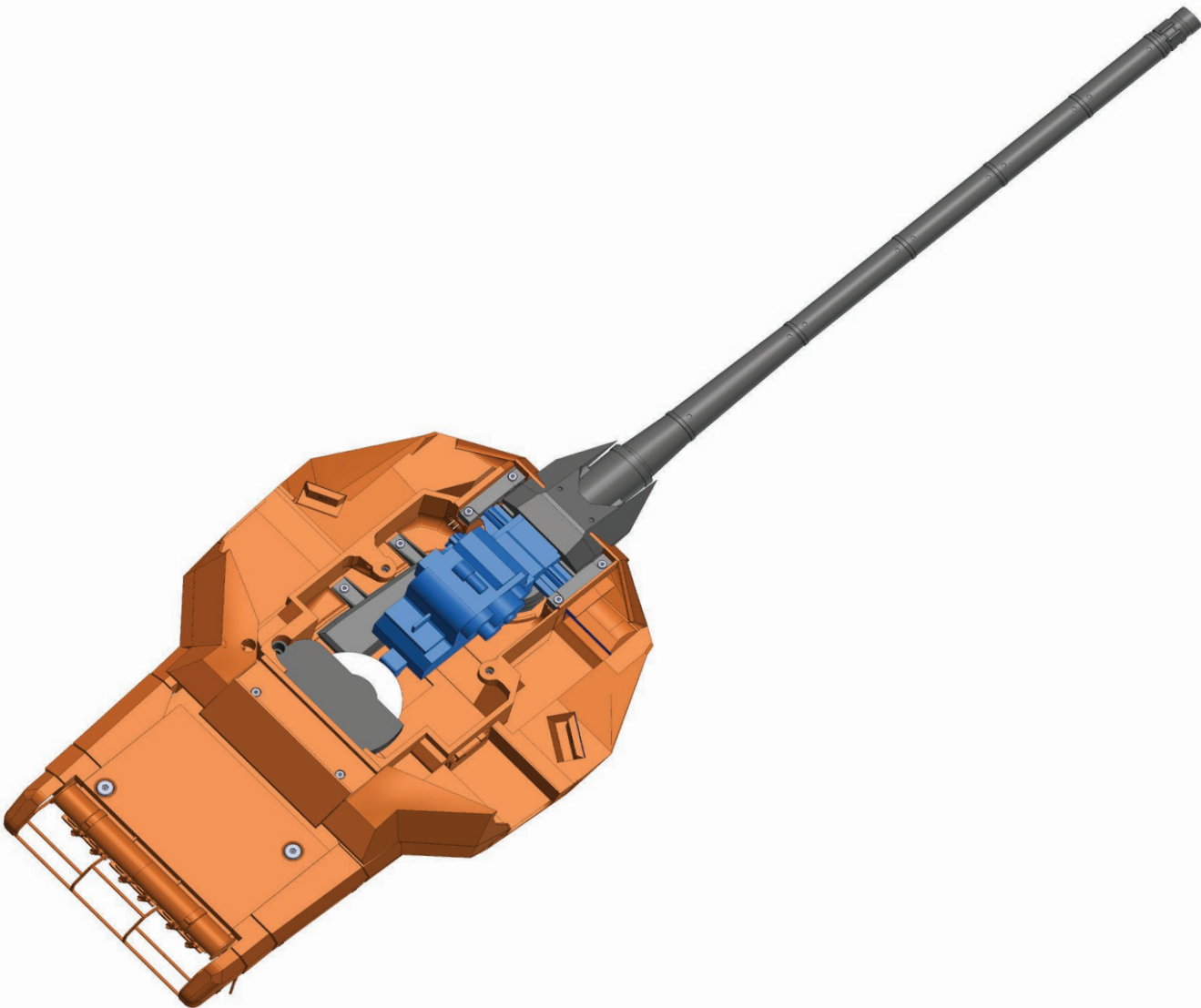
Assembly 11 + Assembly 09A

step 1 detail



Detail of installed block 09A.

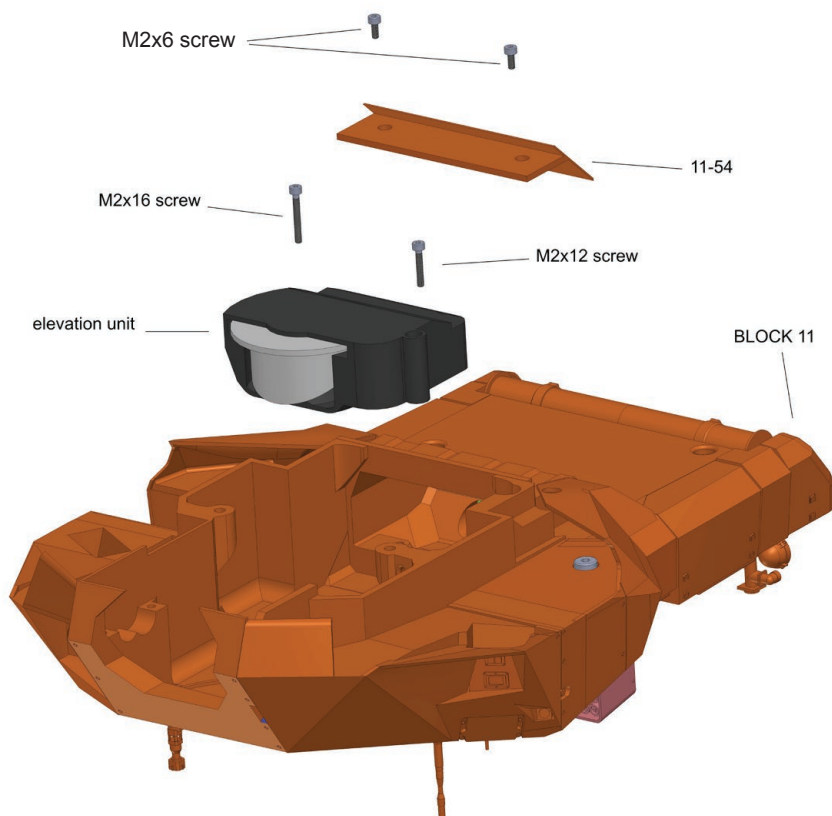
Assembly 11 + Assembly 09B



AMOUNT:	OPTIONAL (1x)
PRINTED PARTS:	Assembly 11, Assembly 09B
NON-PRINTED PARTS:	M2x16 screw (1x), M2x12 screw (5x), M2x6 screw (2x)
NOTES:	

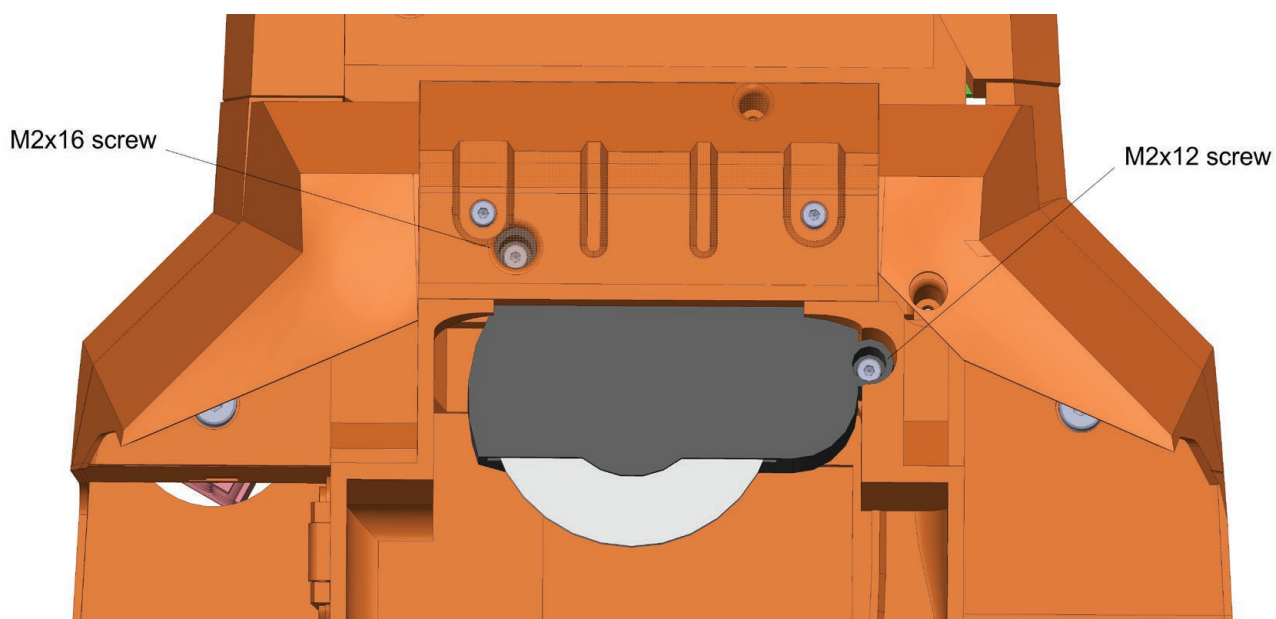
Assembly 11 + Assembly 09B

step 1



Attach the elevation unit with M2x12mm and M2x16mm screws. You can cover the screw holes with part 11-54. Cover is installed with M2x6mm screws.

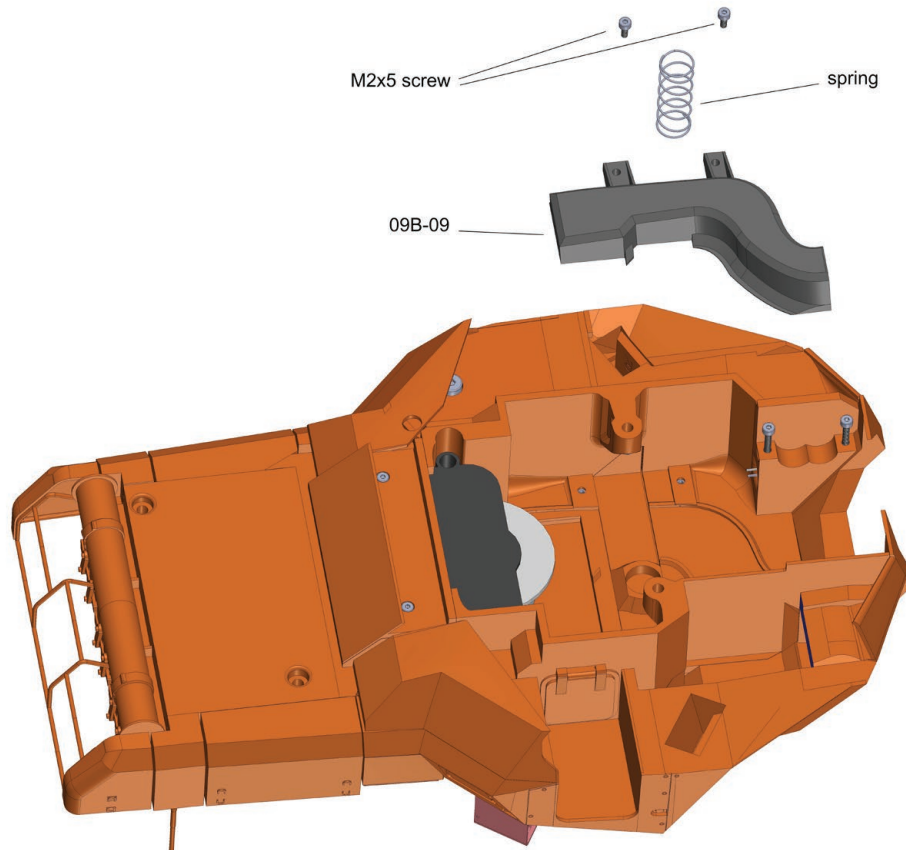
step 1 detail



Detail of the elevation unit.

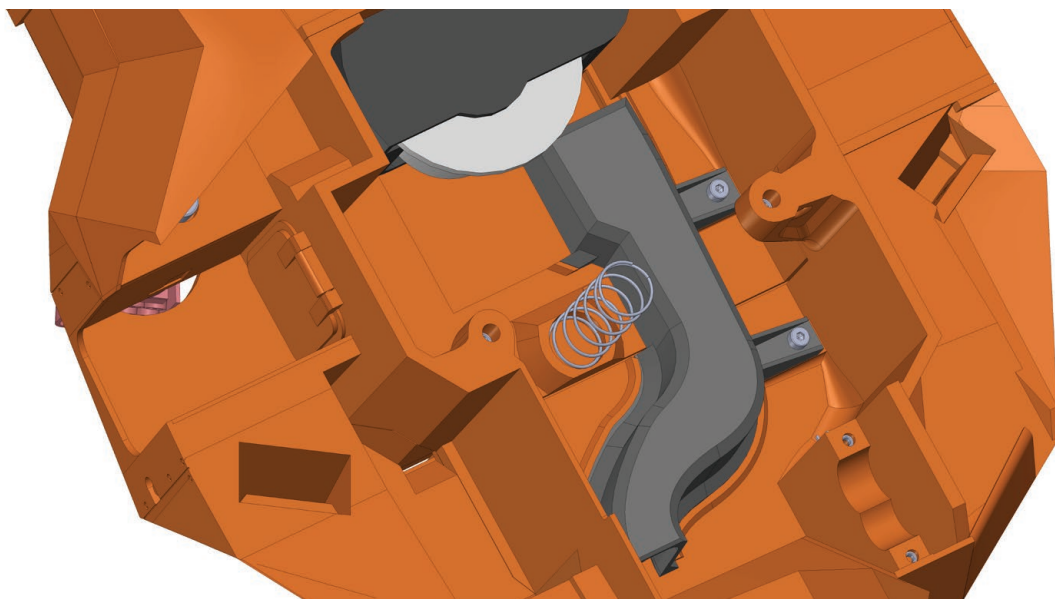
Assembly 11 + Assembly 09B

step 2



Install part 09B-09 using two M2x5mm screws.
Insert the spring of the elevation mechanism.

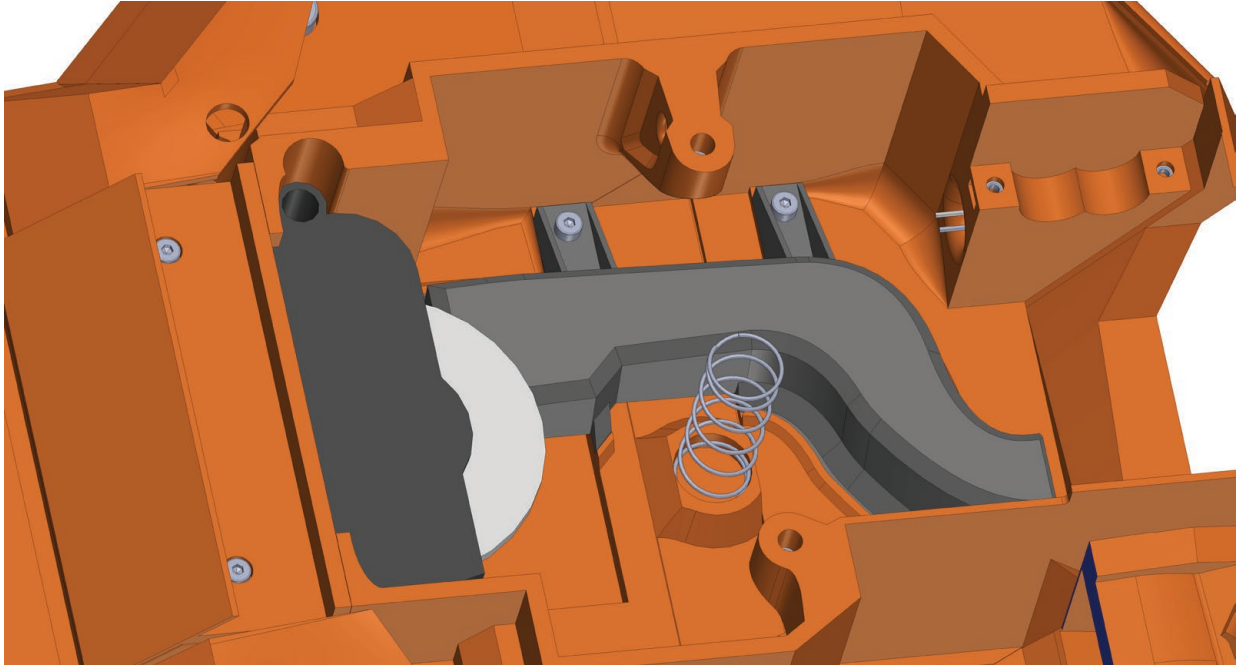
step 2 detail



Detail of part 09B-09 and elevation mechanism spring.

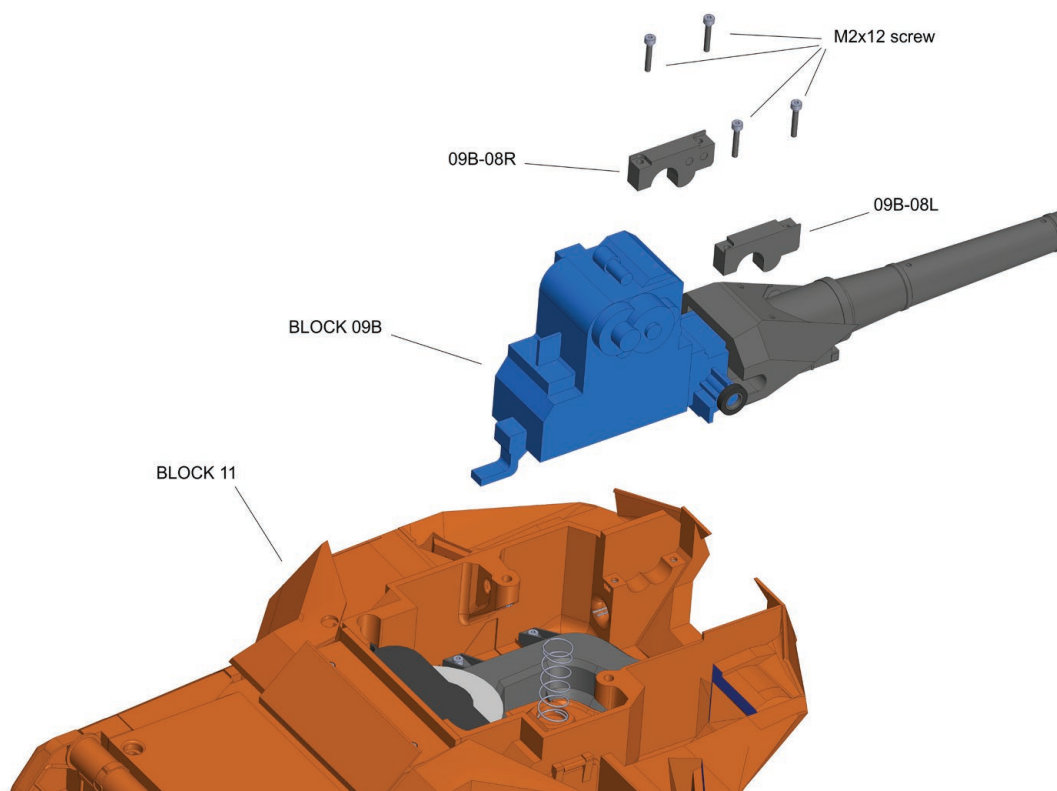
Assembly 11 + Assembly 09B

step 2 detail



Detail of part 09B-09 and elevation mechanism spring.

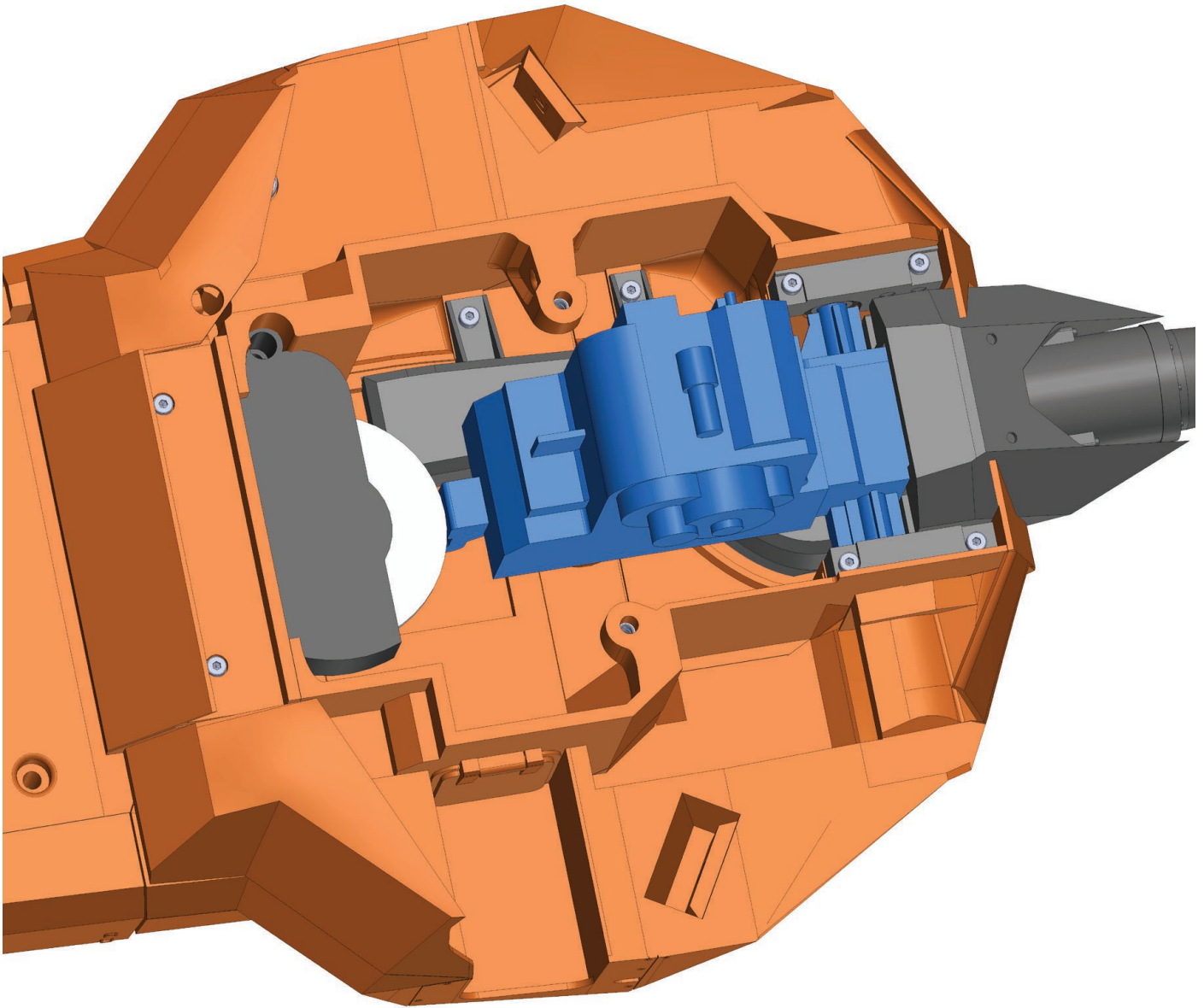
step 3



Install the 09B block using four M2x12 screws.

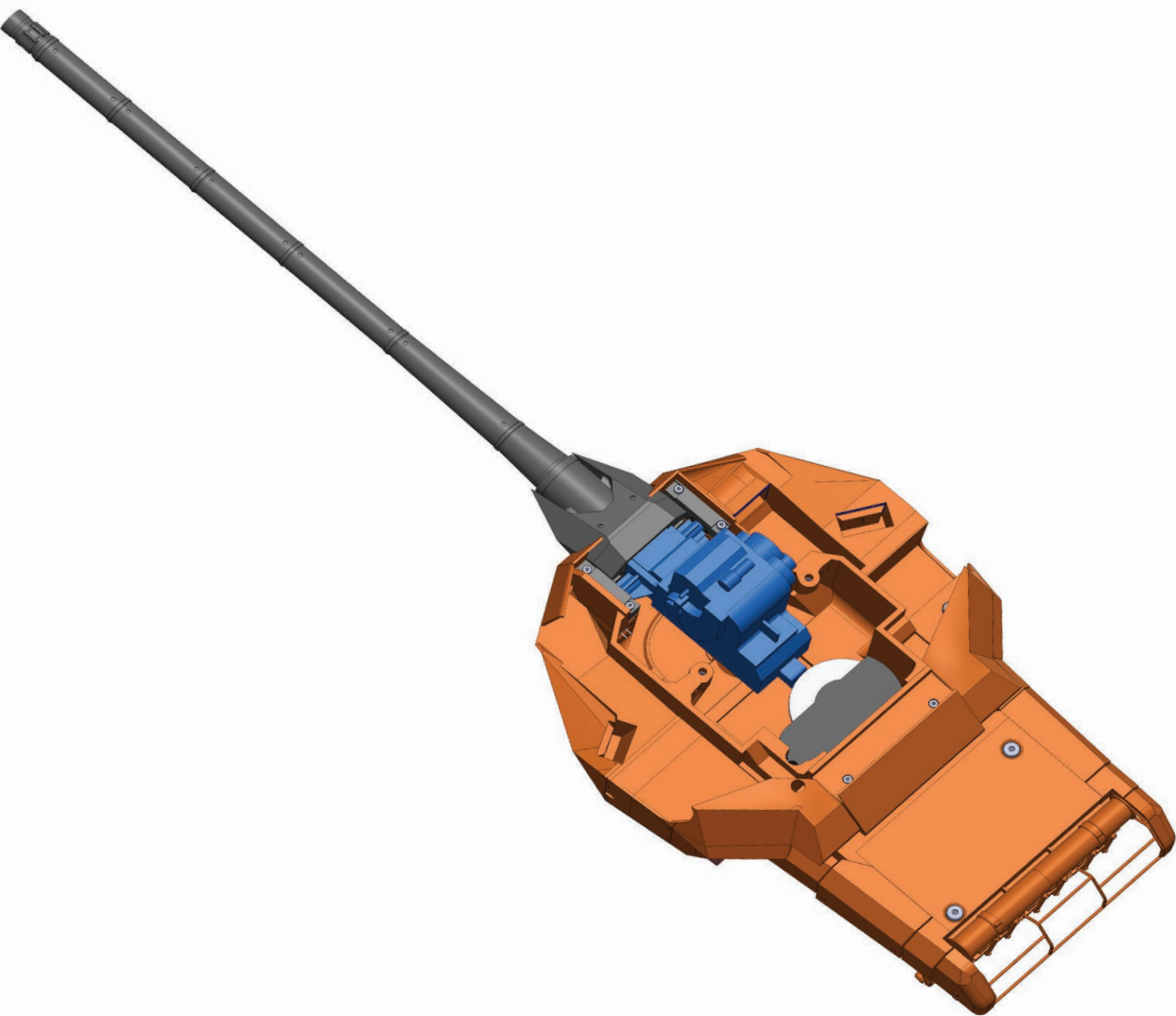
Assembly 11 + Assembly 09B

step 3 detail



Assembly detail of block 09B.

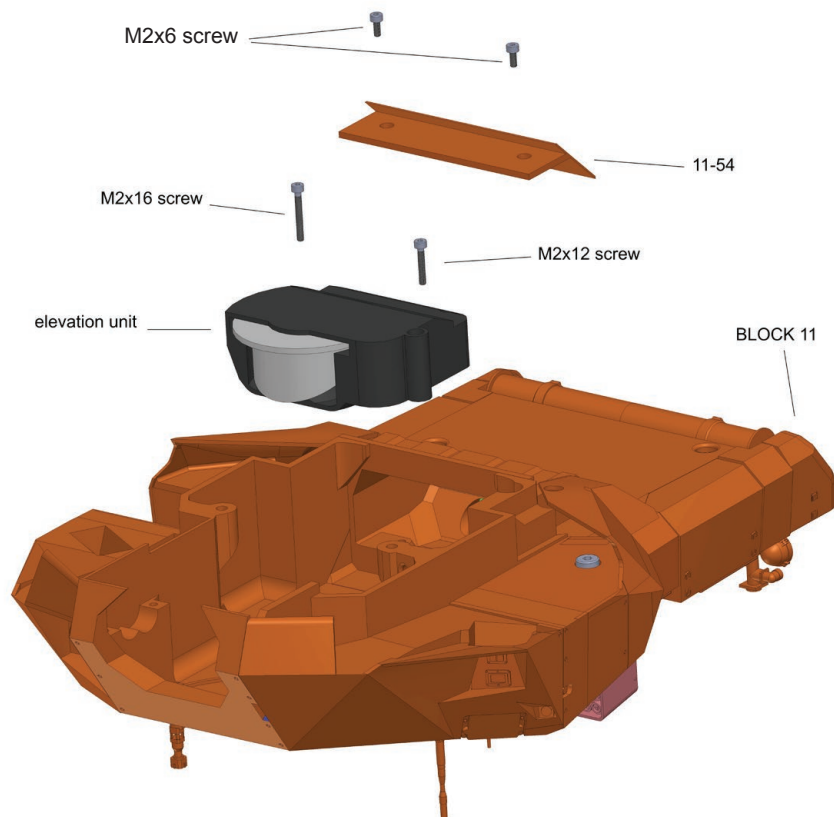
Assembly 11 + Assembly 09C



AMOUNT:	OPTIONAL (1x)
PRINTED PARTS:	Assembly 11, Assembly 09C
NON-PRINTED PARTS:	M2x16 screw (1x), M2x12 screw (5x)
NOTES:	

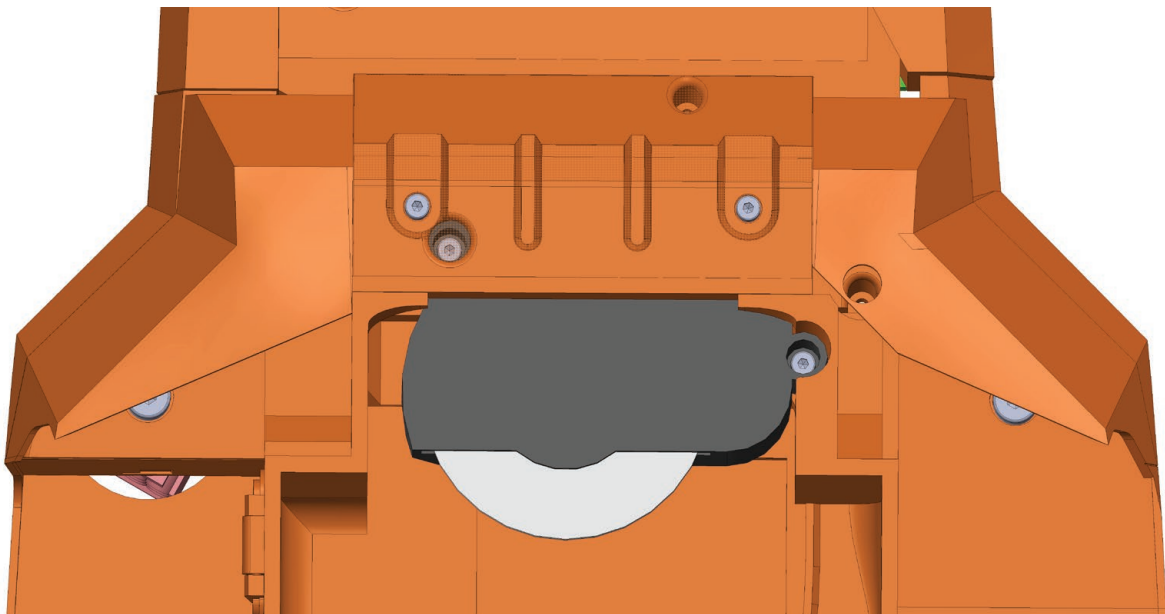
Assembly 11 + Assembly 09C

step 1



Attach the elevation unit with M2x12mm and M2x16mm screws. You can cover the screw holes with part 11-54. It is installed with M2x6mm screws.

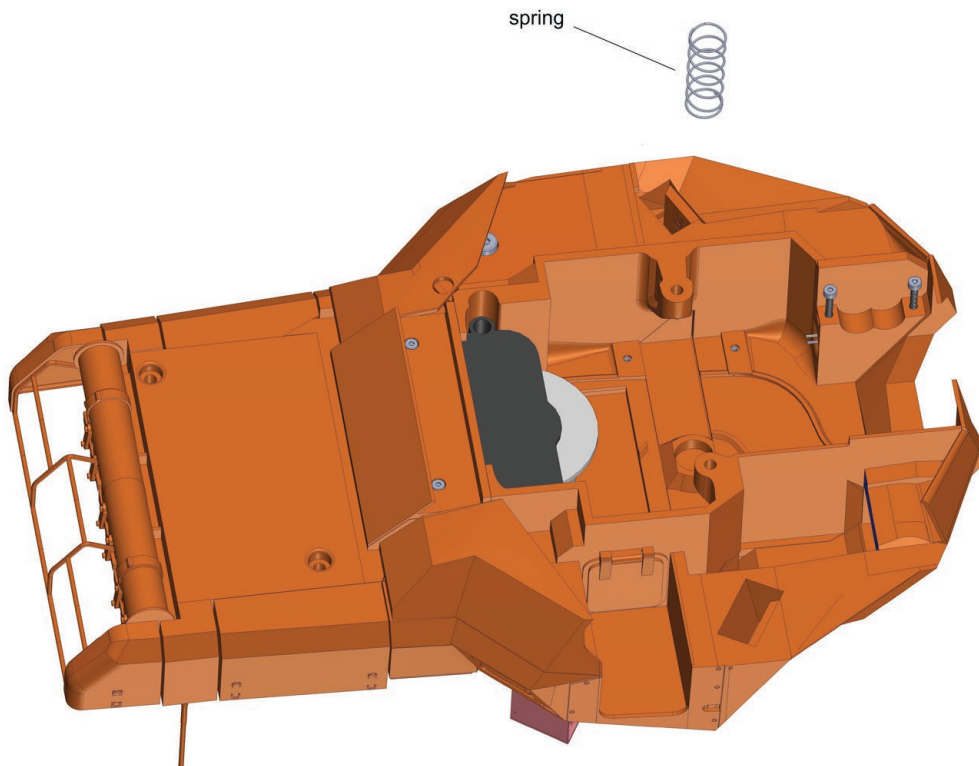
step 1 detail



Detail of the elevation unit.

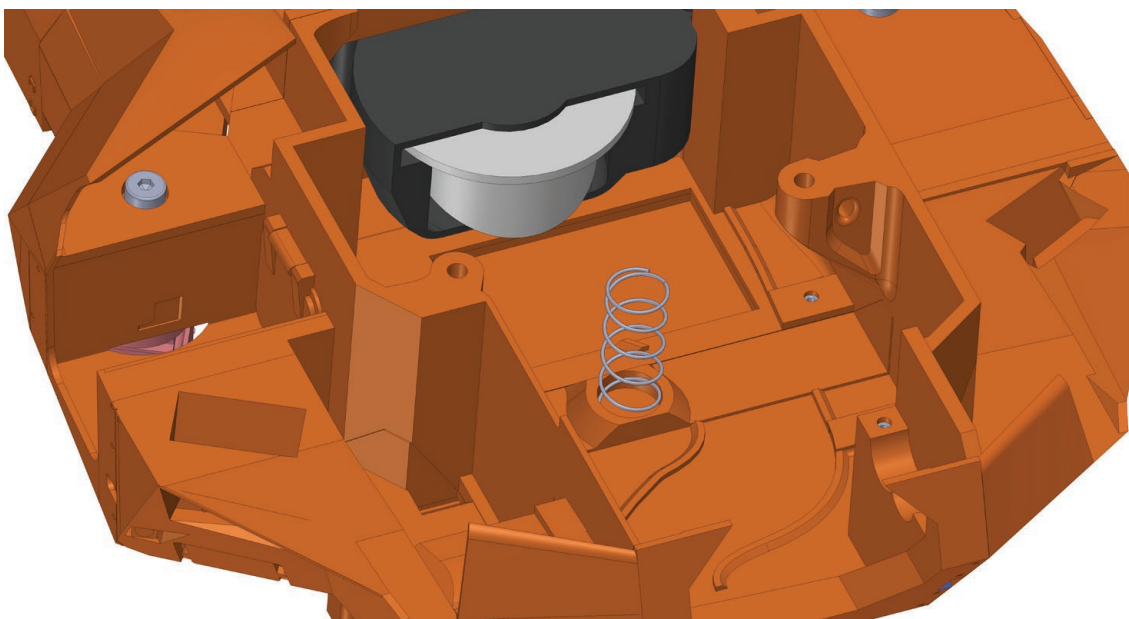
Assembly 11 + Assembly 09C

step 2



Insert the spring of the elevation unit.

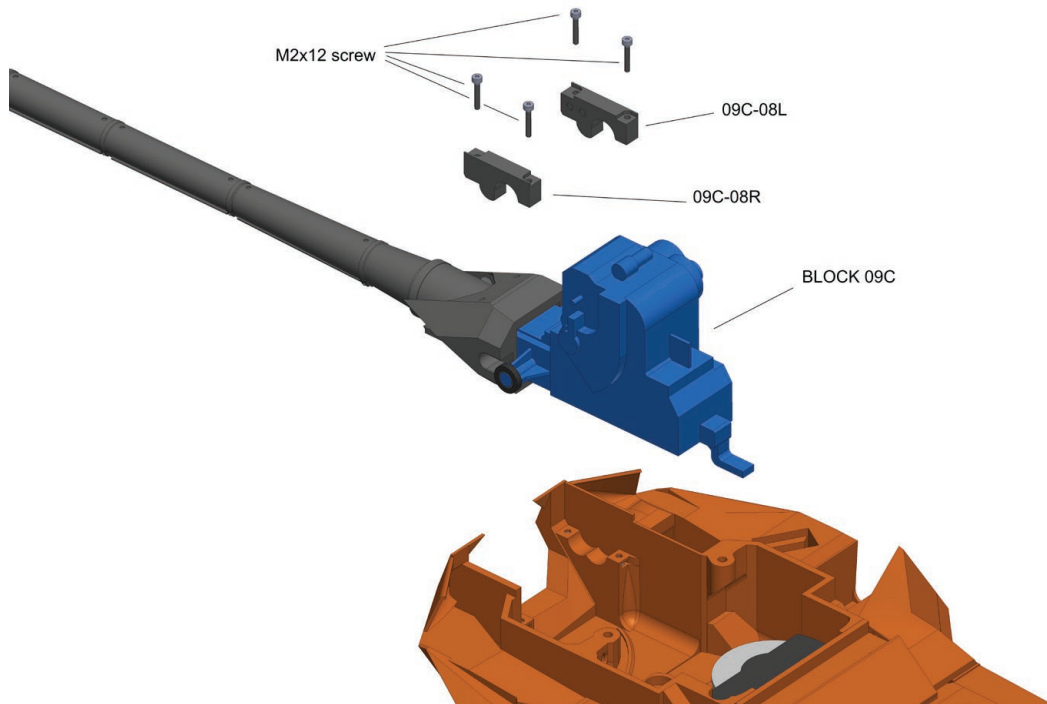
step 2 detail



Detail of part 09B-09 and elevation mechanism spring.

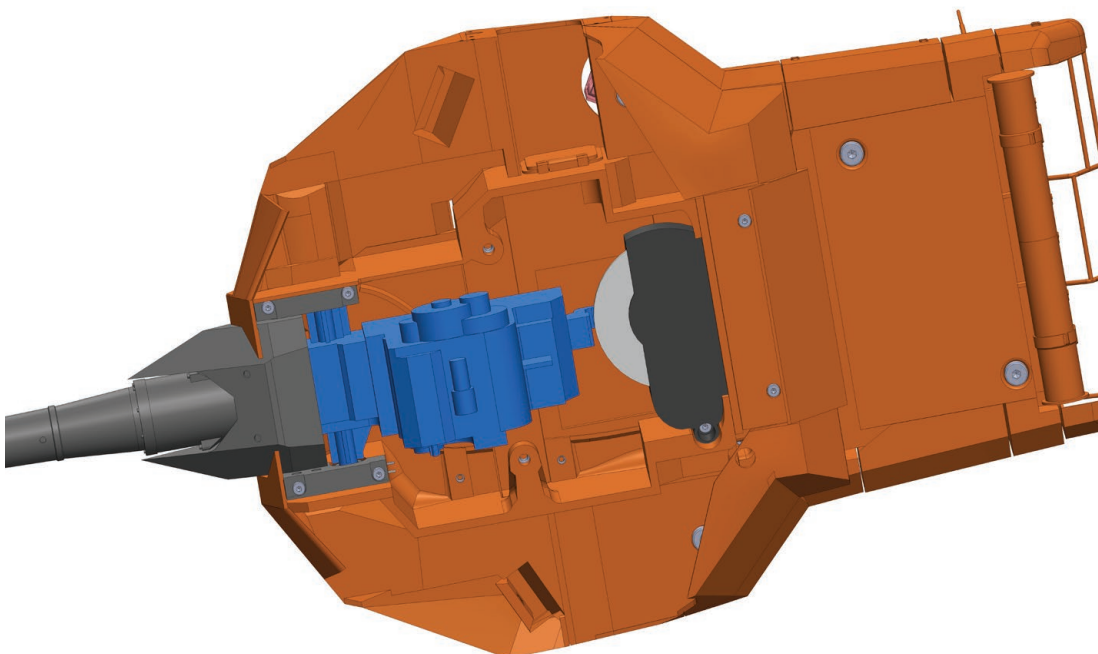
Assembly 11 + Assembly 09C

step 3



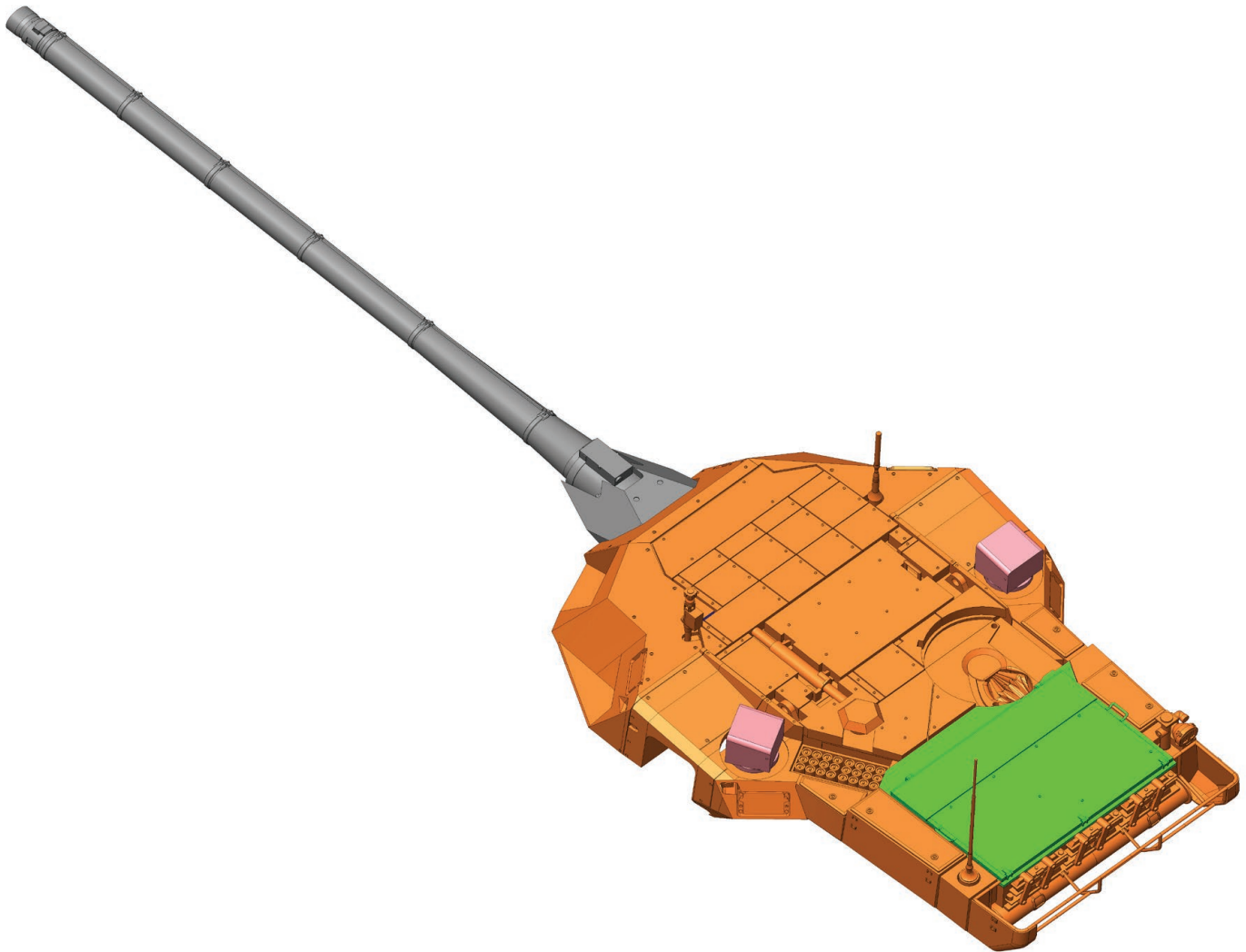
Install the 09C assembly using four M2x12 screws.

step 3 detail



Detail of installation of assembly 09C.

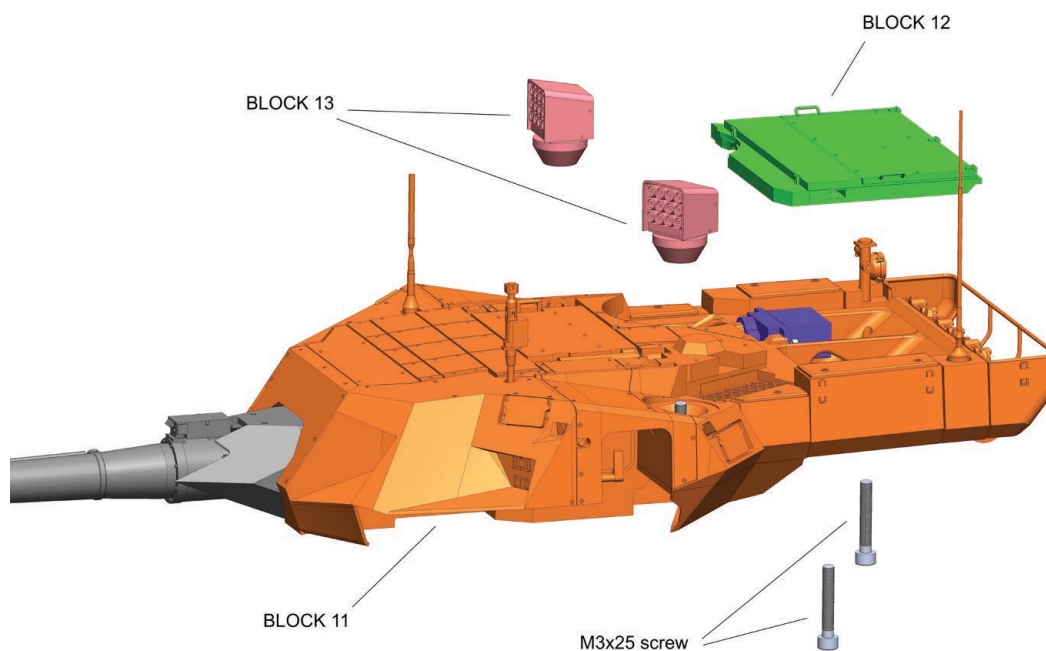
Assembly 11 + Assembly 12/13



AMOUNT:	1x
PRINTED PARTS:	Assembly 11 (1x), Assembly 12 (1x), Assembly 13 (2x)
NON-PRINTED PARTS:	M3x25 screw (2x)
NOTES:	

Assembly 11 + Assembly 12/13

step 1

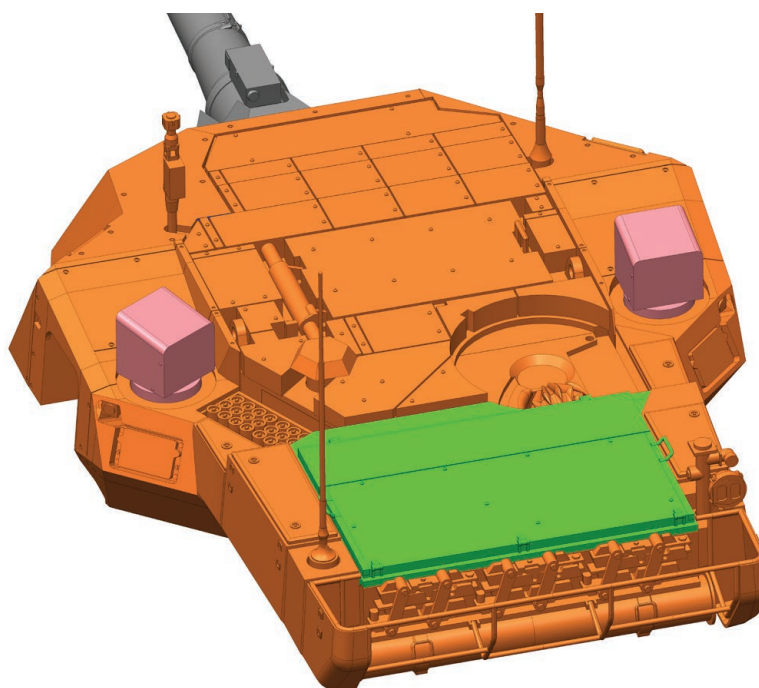


Fit 2x Assembly 13. Fit Assembly 12. You can use two M3x25mm screws.

It is not necessary.

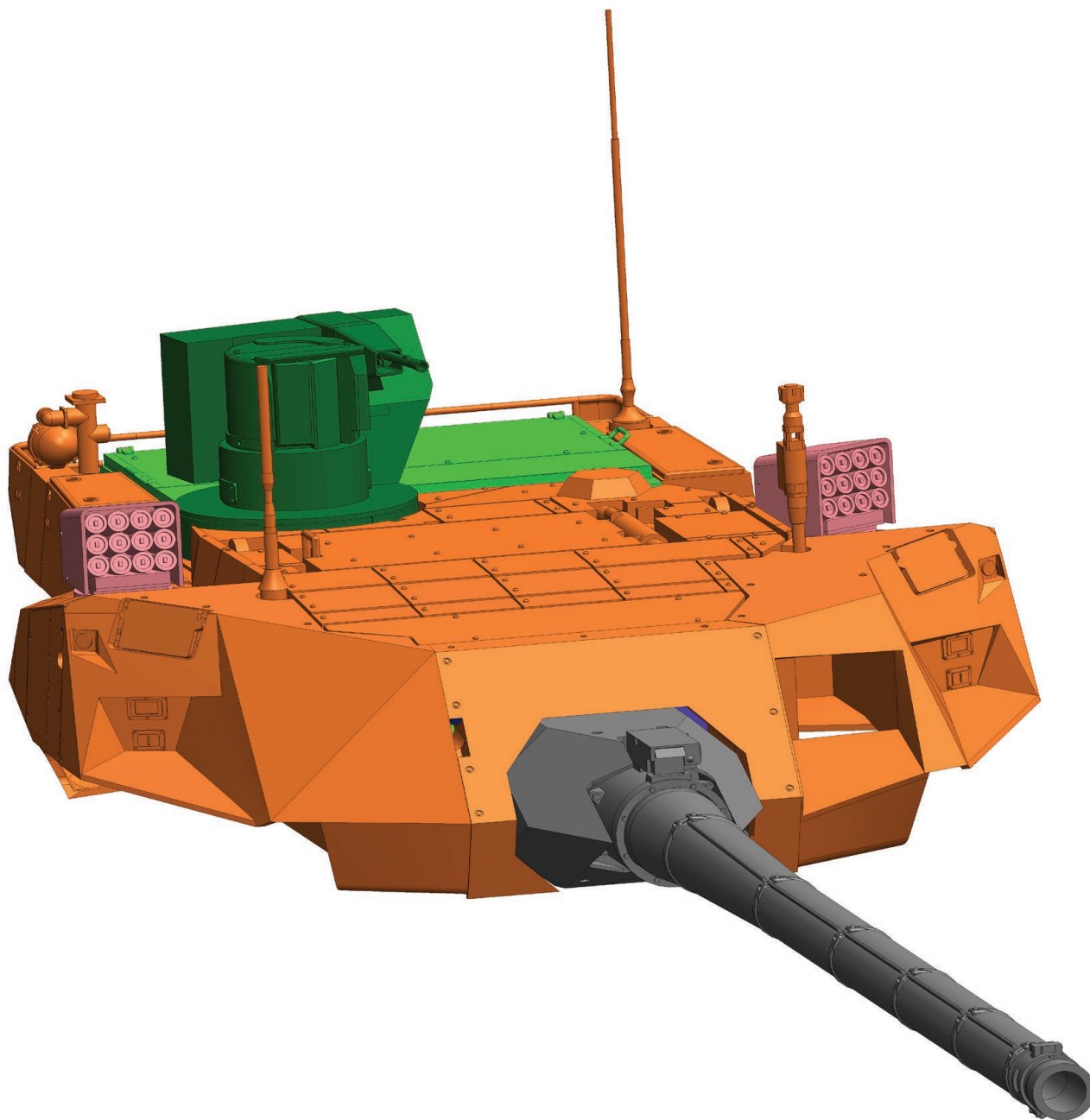
Do not glue Assembly 12 to the turret under any circumstances.

step 1 detail



Detail of the assembly.

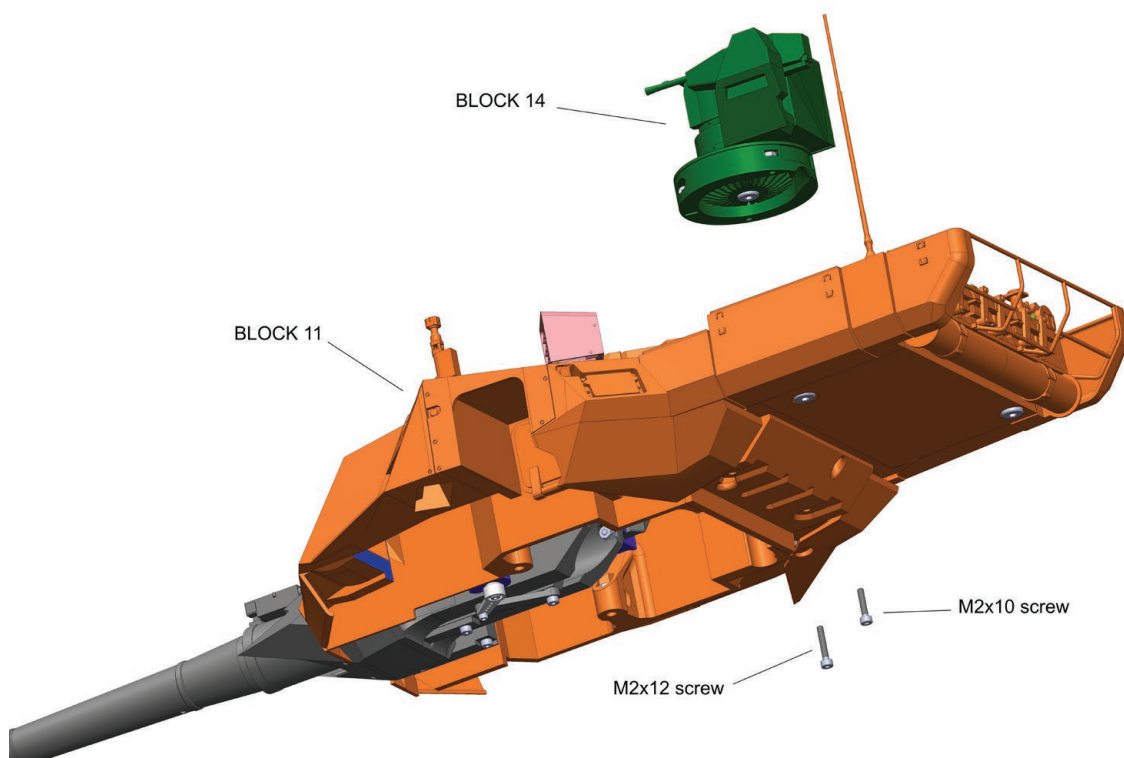
Assembly 11 + Assembly 14A



AMOUNT:	1x
PRINTED PARTS:	Assembly 11 (1x), Assembly 14A (1x).
NON-PRINTED PARTS:	M2x12 screw (1x), M2x10 screw (1x).
NOTES:	

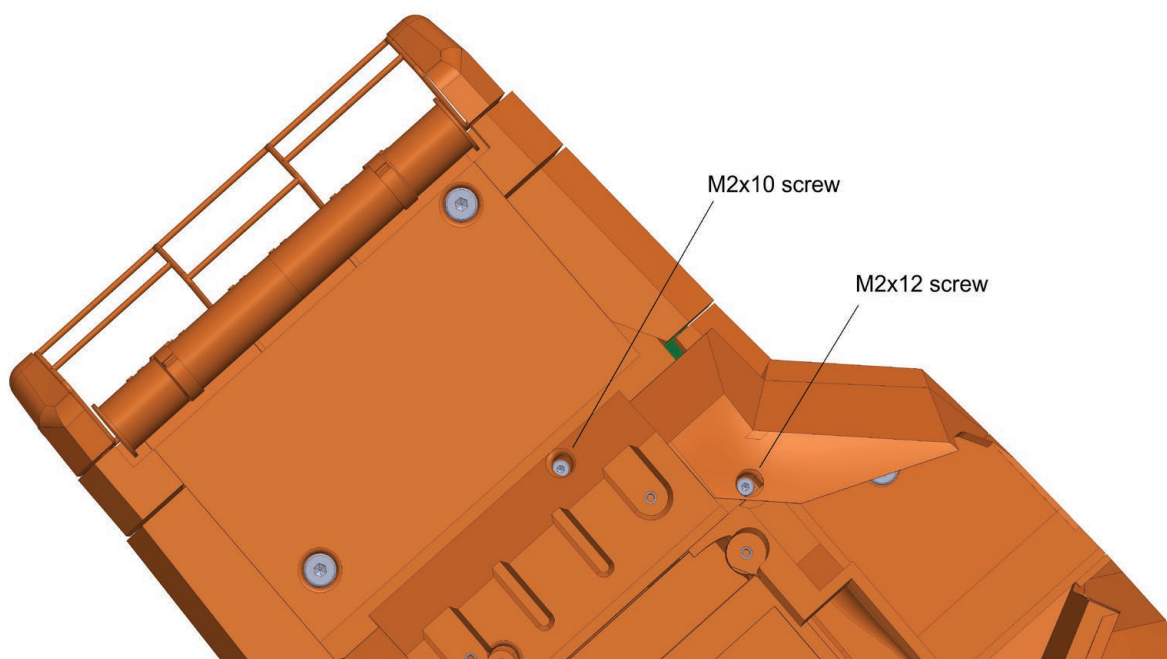
Assembly 11 + Assembly 14A

step 1



Attach Assembly 14A with M2x10mm and M2x12mm screws.

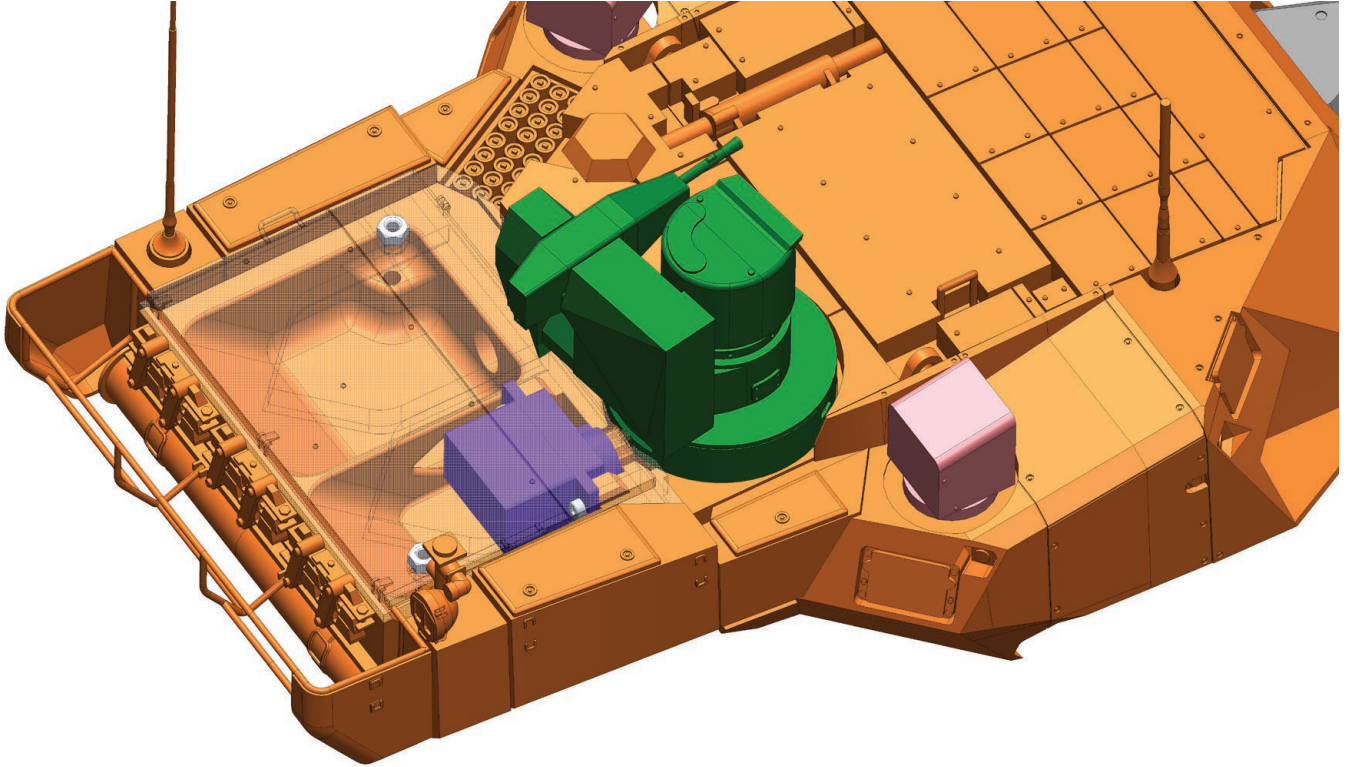
step 1 detail



View of the screws.

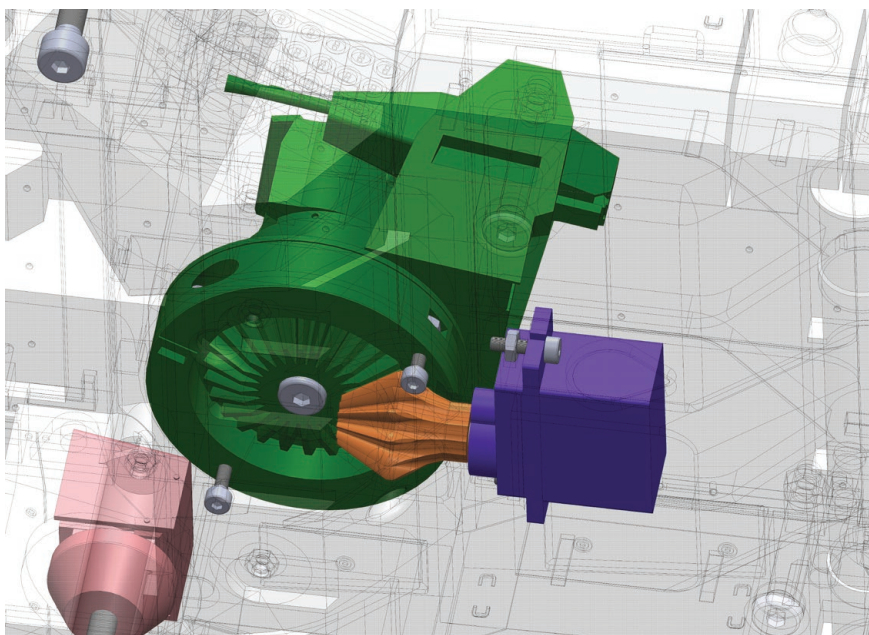
Assembly 11 + Assembly 14A

step 1 detail



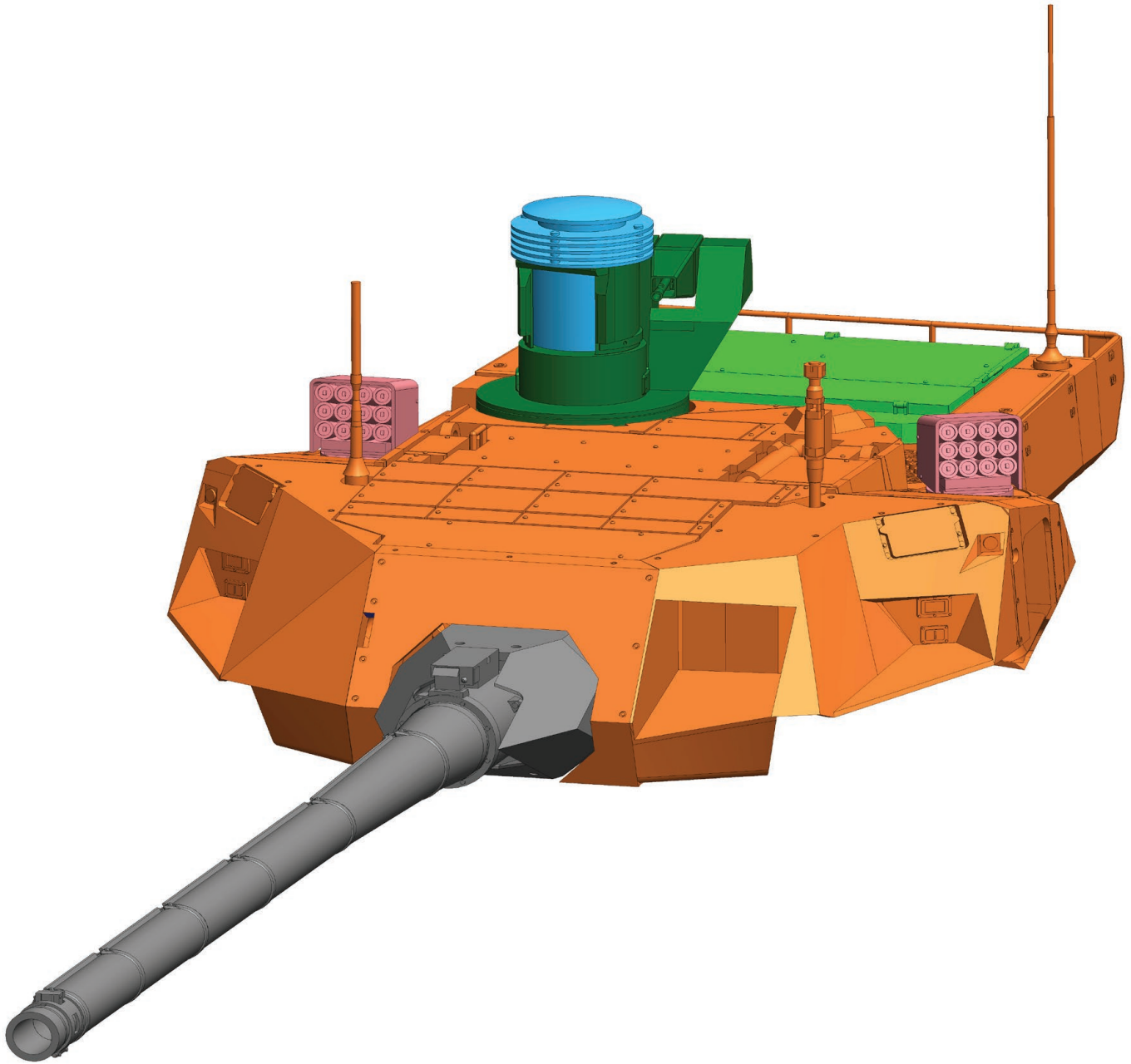
Detailed view of the 360° servomotor.

step 1 detail



Detailed view of the 360° servomotor.

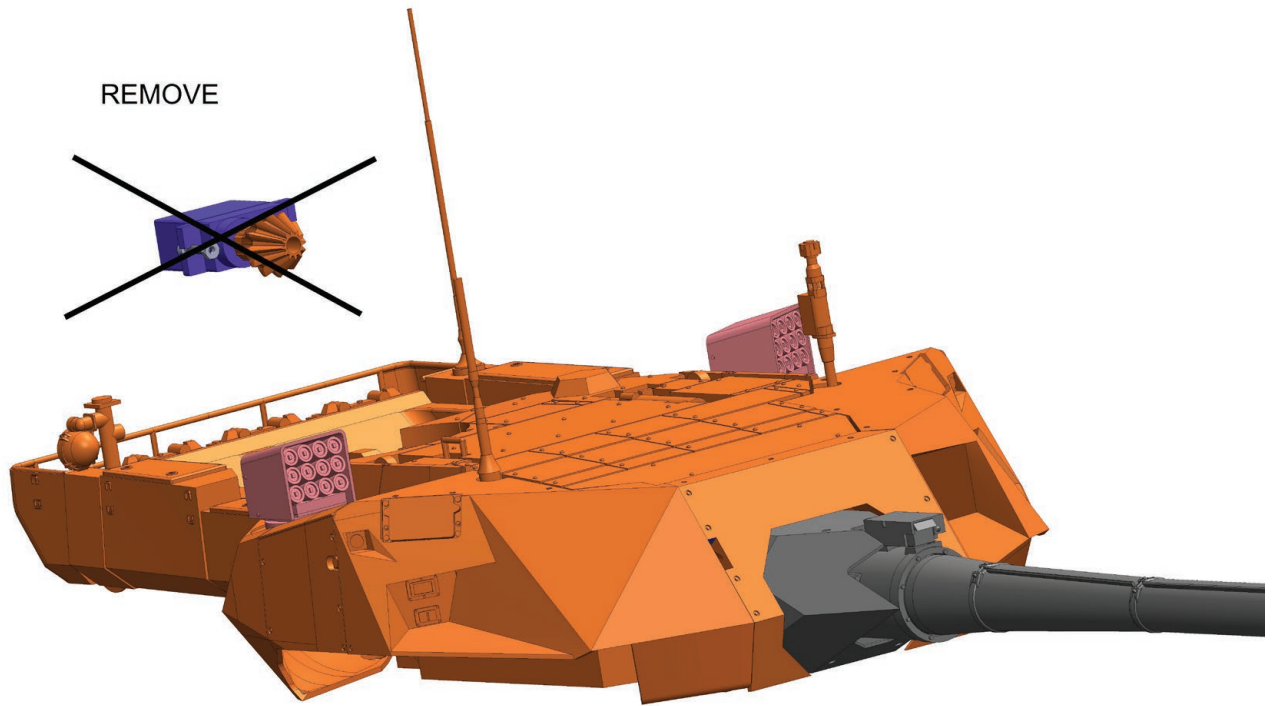
Assembly 11 + Assembly 14B



AMOUNT:	1x
PRINTED PARTS:	Assembly 11 (1x), Assembly 14B (1x).
NON-PRINTED PARTS:	M2x12 screw (1x), M2x10 screw (1x).
NOTES:	

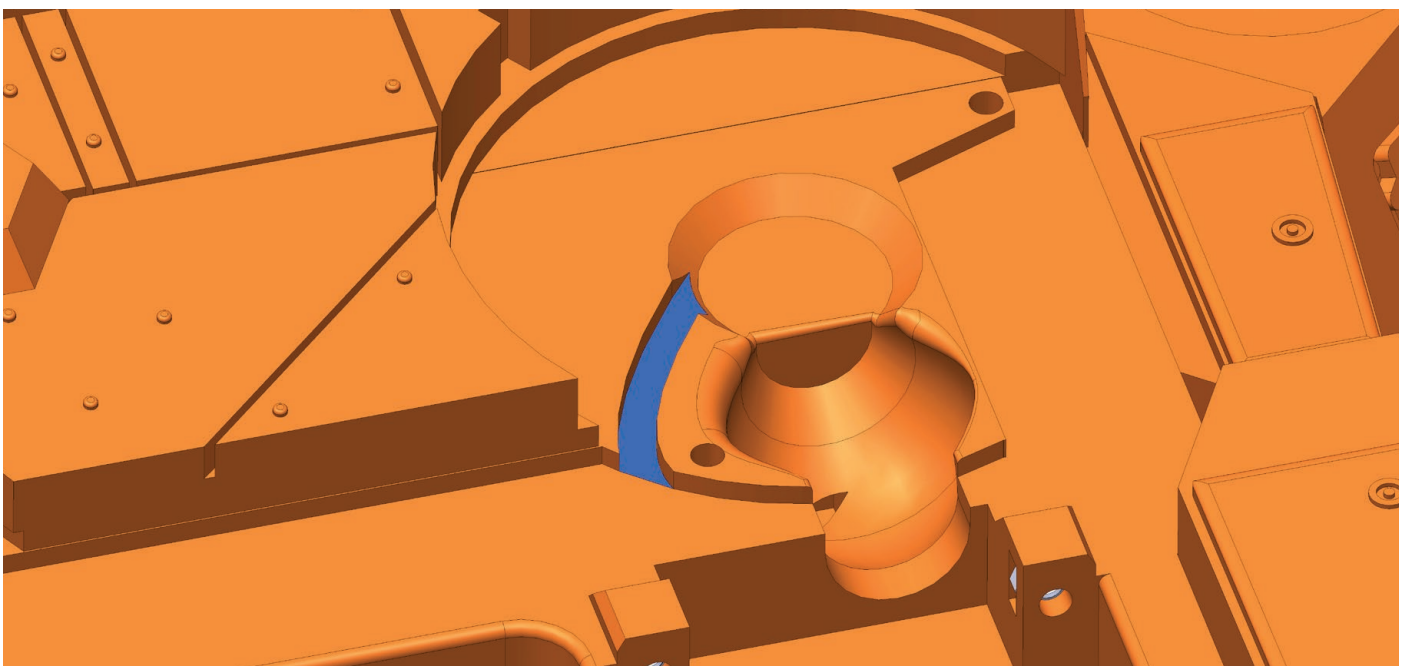
Assembly 11 + Assembly 14B

step 1



To use the IR sensor, temporarily remove the servomotor and part 11-55.

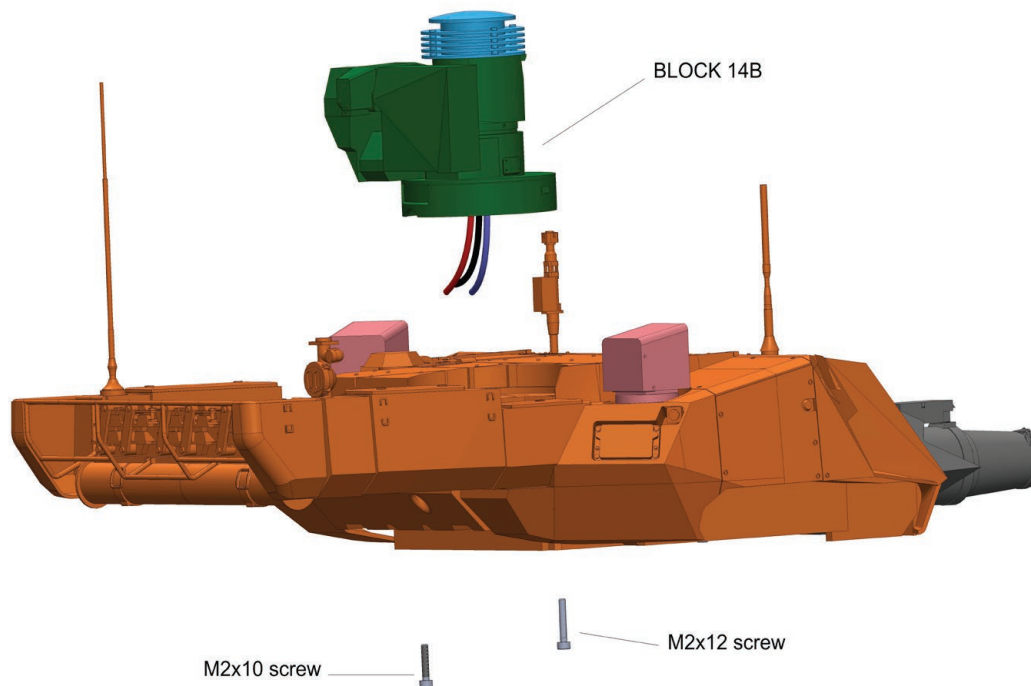
step 1 detail



The groove marked in blue is used for the wiring of the IR system.

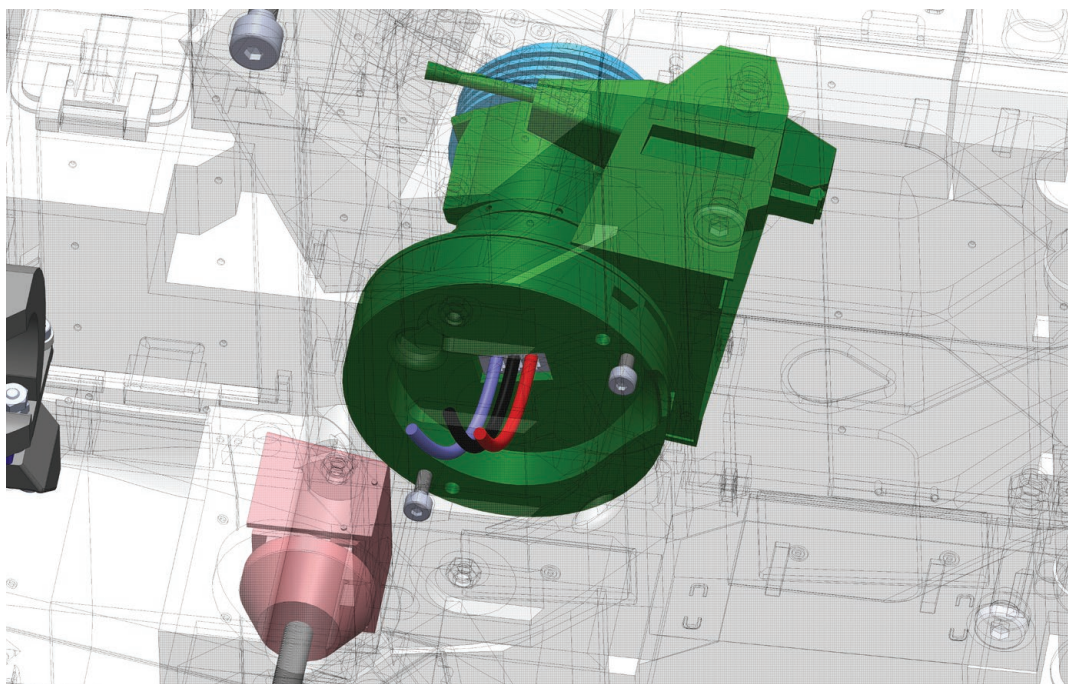
Assembly 11 + Assembly 14B

step 2



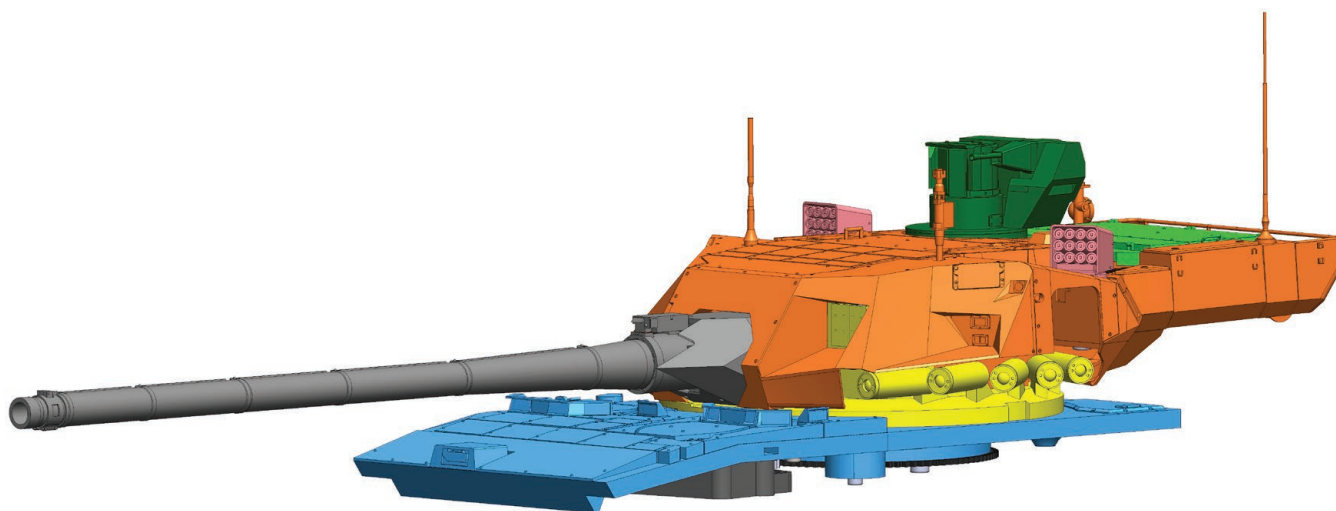
Fasten Assembly 14B with M2x10mm and M2x12mm screws.
It is installed in the same way as Assembly 14A.

step 2 detail



Detail of installation of assembly 14B.

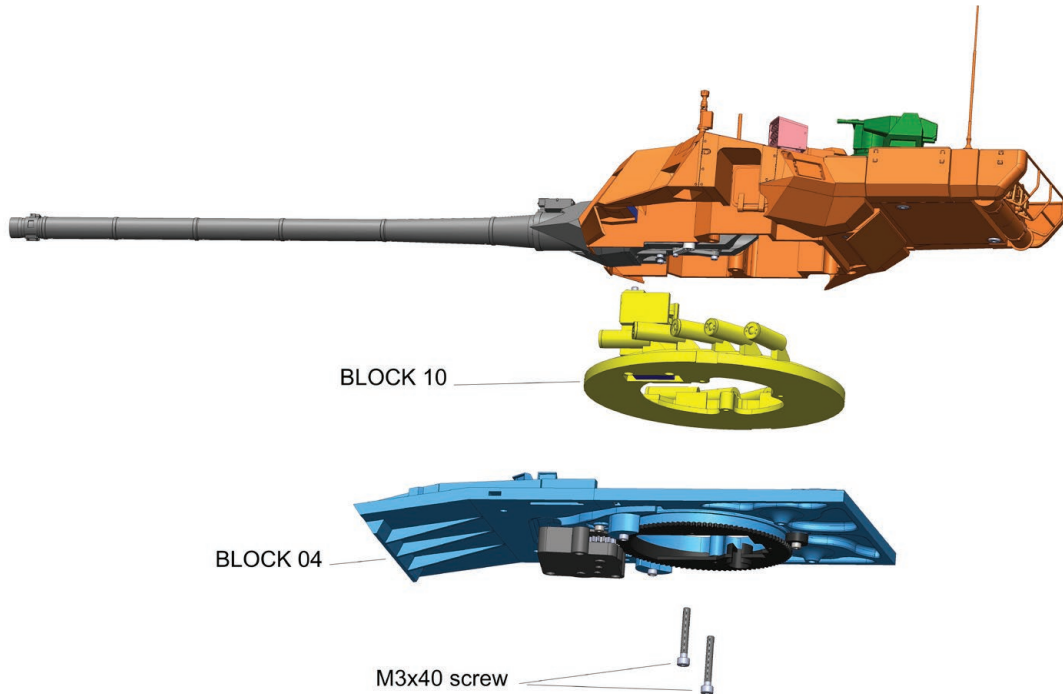
Assembly 11 + Assembly 12/13



AMOUNT:	1x
PRINTED PARTS:	Assembly 11 (1x), Assembly 10 (1x), Assembly 04 (1x)
NON-PRINTED PARTS:	M3x40 screw (2x)
NOTES:	

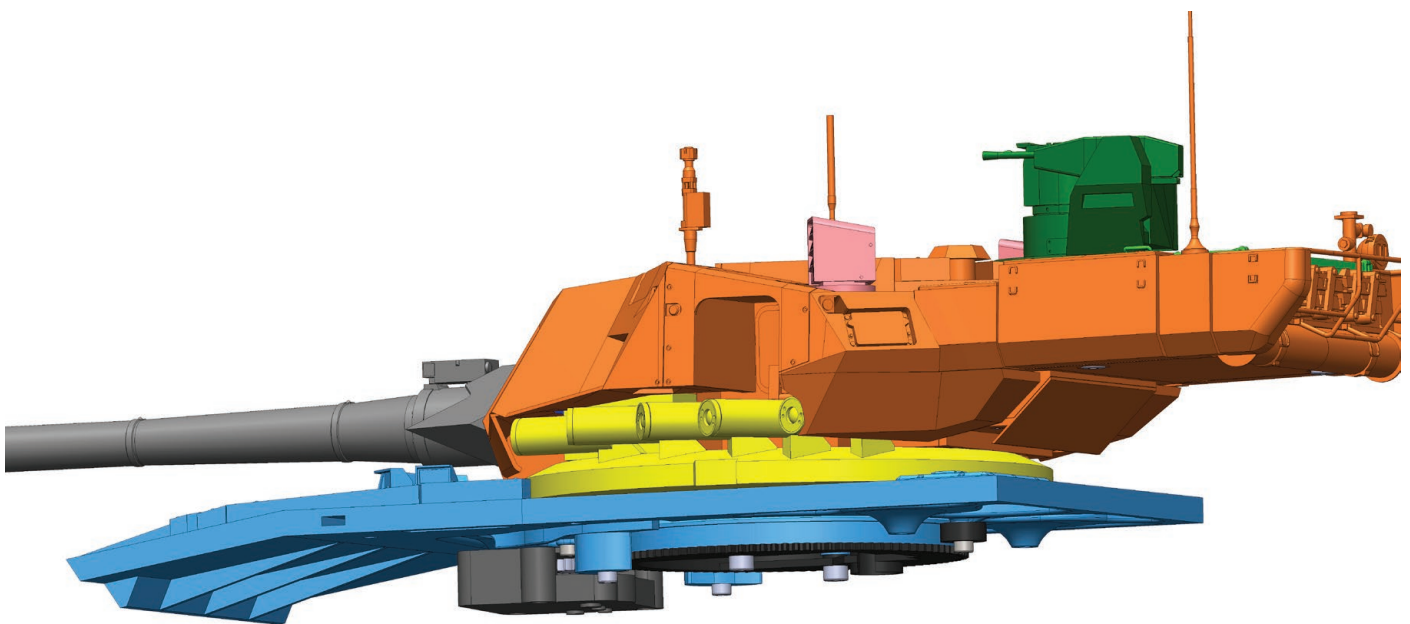
Assembly 11 + Assembly 10/04

step 1



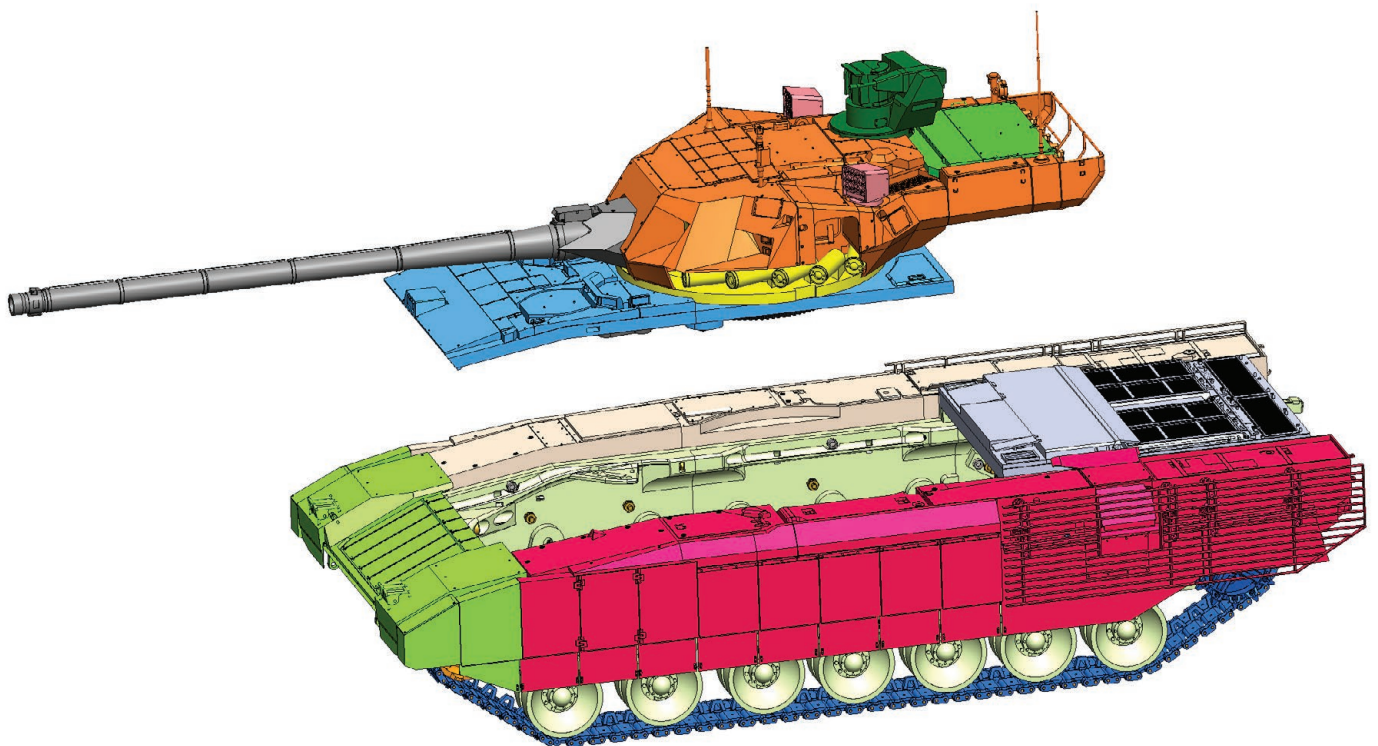
Carefully insert Assembly 10 into the turret.
Then install Assembly 04 using two M3x40mm screws. **Do not glue the blocks together under any circumstances.**

step 1 detail

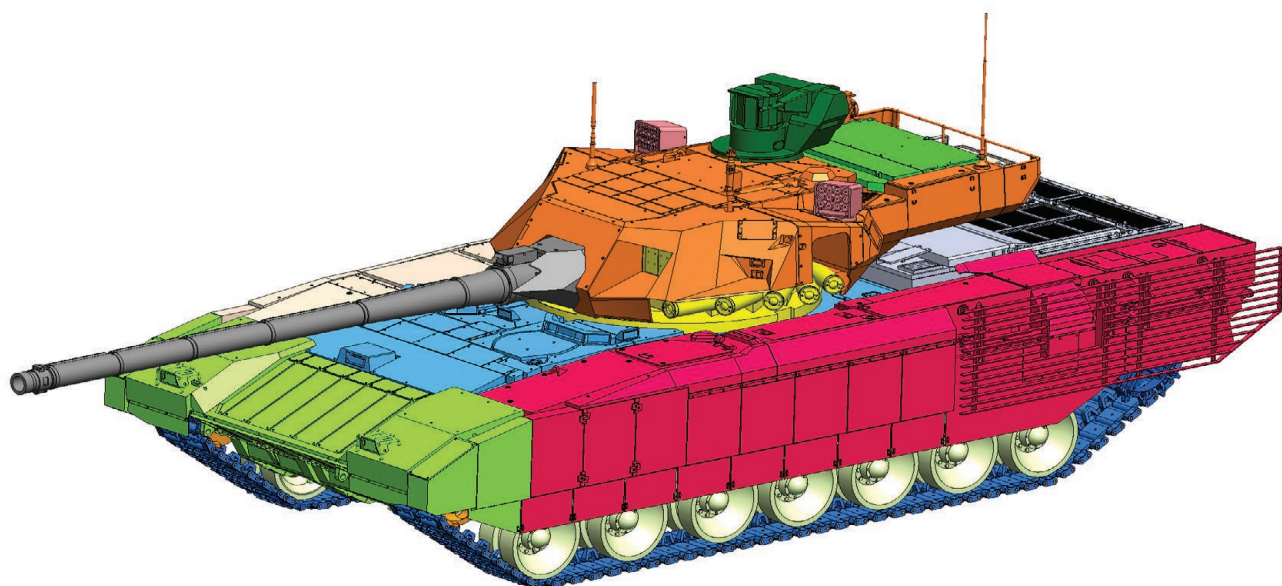


Detail of the assembly.

HULL + TURRET



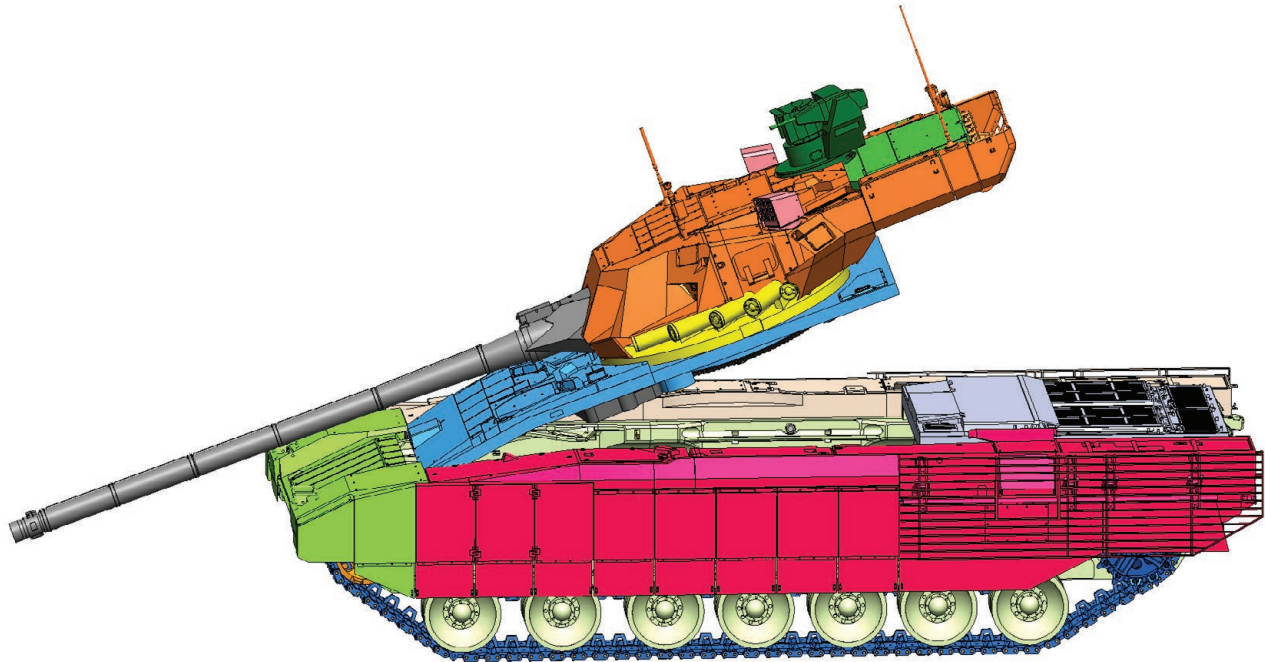
HULL + TURRET



AMOUNT:	1
PRINTED PARTS:	complete hull + turret
NON-PRINTED PARTS:	
NOTES:	

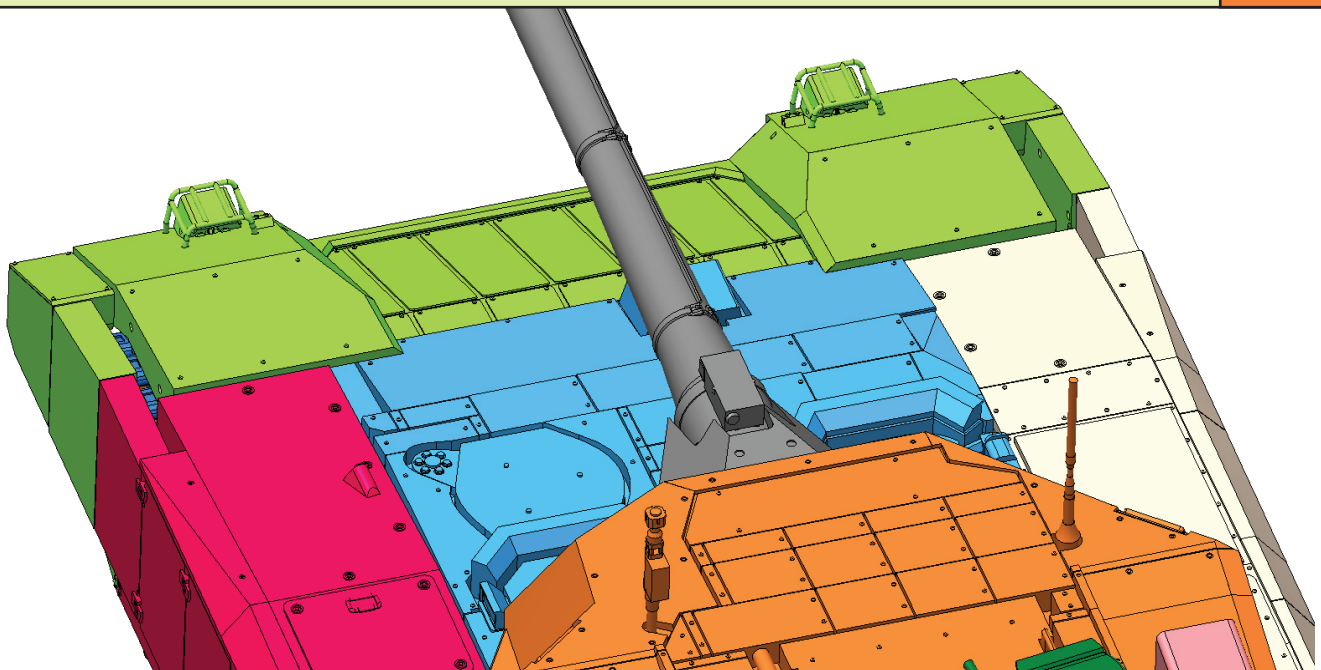
HULL + TURRET

step 1



Insert Assembly 04. First carefully slide it under the mudguards (Assembly 01) and then place it freely on the hull.

step 1 detail



The correct position of block 04.

It fits under Assembly 01, which limits the position of the turret.

Do not glue Assembly 04 to the hull under any circumstances !!!

T-14 Armata

the end

Congratulations on completing your model.

We hope the construction was fun and trouble-free.

Electronics tips, more information and printing tips, common operating tips, and many more can be found in our forum at: <https://www.warprints.xyz/forum>