



KNIGHT[®]
C U S T O M S



Optic working interior detail set manual

1

Items required

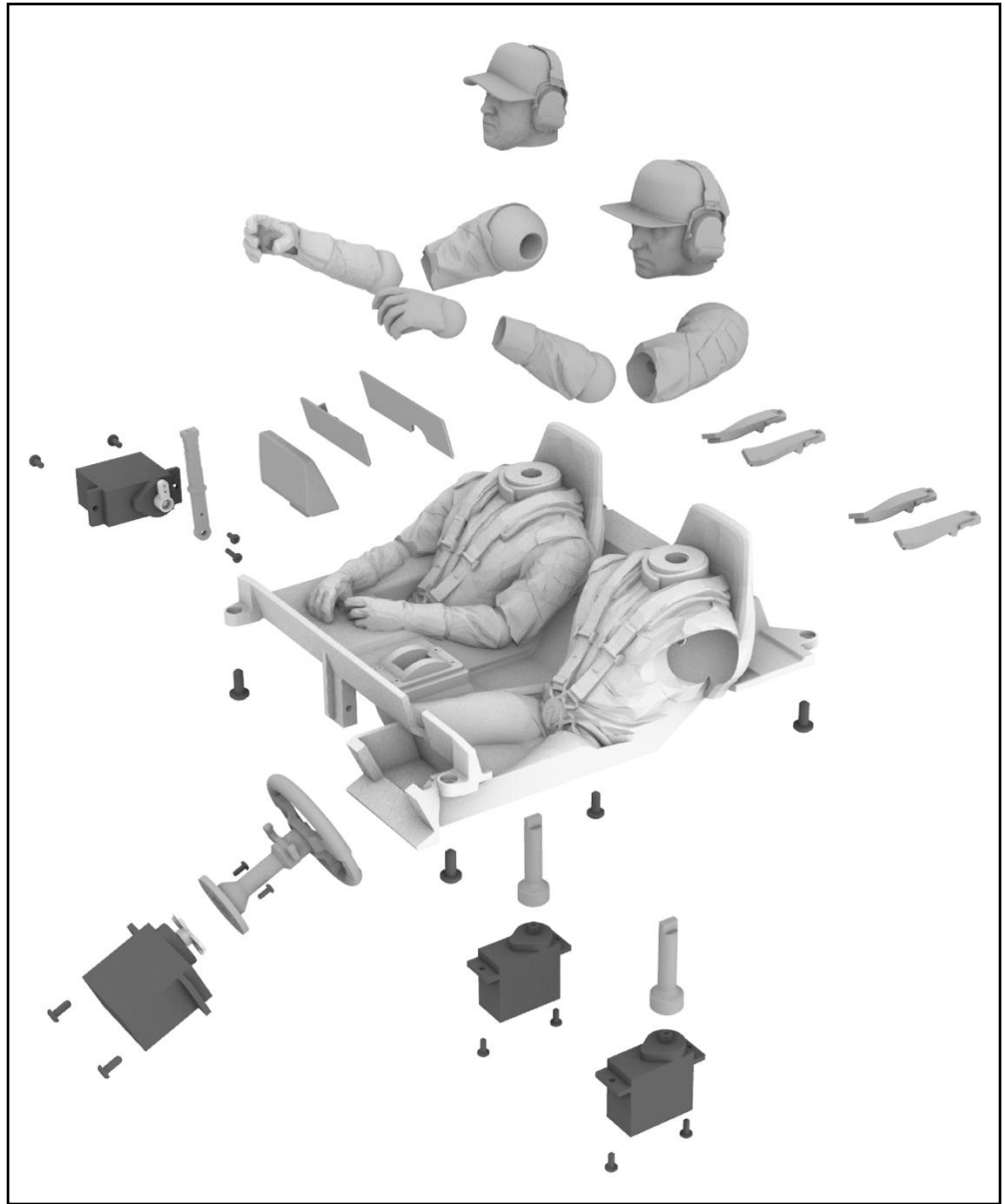
Sold separately

You will need 4 micro servos and a 4 or 5 channel receiver / transmitter to complete the assembly. We recommend Hitec HS-55 Feather Servo 7.5g Hybrid I.C. servos.

We recommend using scale winch rope to articulate the arms.

A regular hot glue gun or instant glue can be used to fix required parts in place.

NOTE: Using other micro servos may require more modifications to ensure the servo spline location is the correct offset to the 3D printed parts.



3D printer set up

Your purchase includes all the STL files to complete the assembly. G-codes are also included in the download. These G-codes are a recommended starting point for those new to 3D printing or just looking for a quick start.

The G-codes can be sent directly to your printer and come with our recommended settings, orientation & supports for printing in PLA filament. Unless otherwise stated, we recommend Bambu Lab PLA Matte for best results.

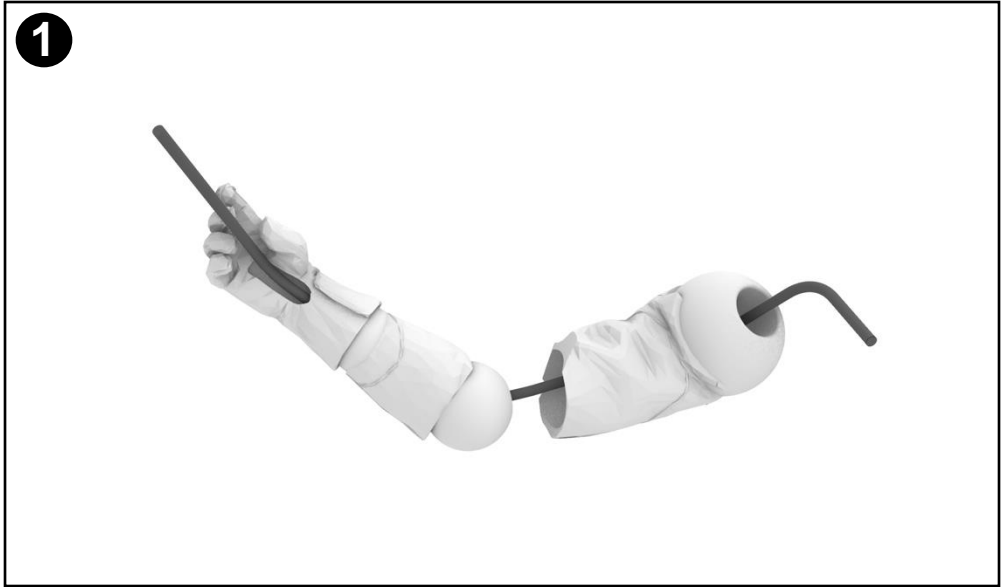
G-codes are Included for the Bambu Lab (P1, X1) & Prusa series of printers. The Prusa G-codes should also work on other printers such as the Ender series of printers that have a print bed 20x20cm or larger.

1

Driver arm assembly

Thread the cord through the right arm to join the two parts together.

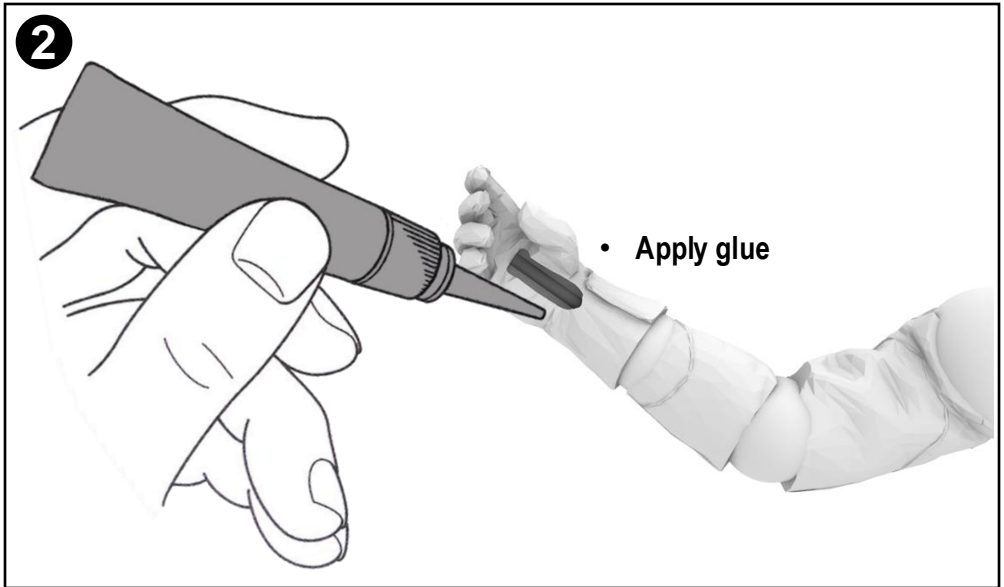
NOTE: We recommend using scale winch rope to articulate the arms



2

Glue the cord to the hand being sure the joints move smoothly.

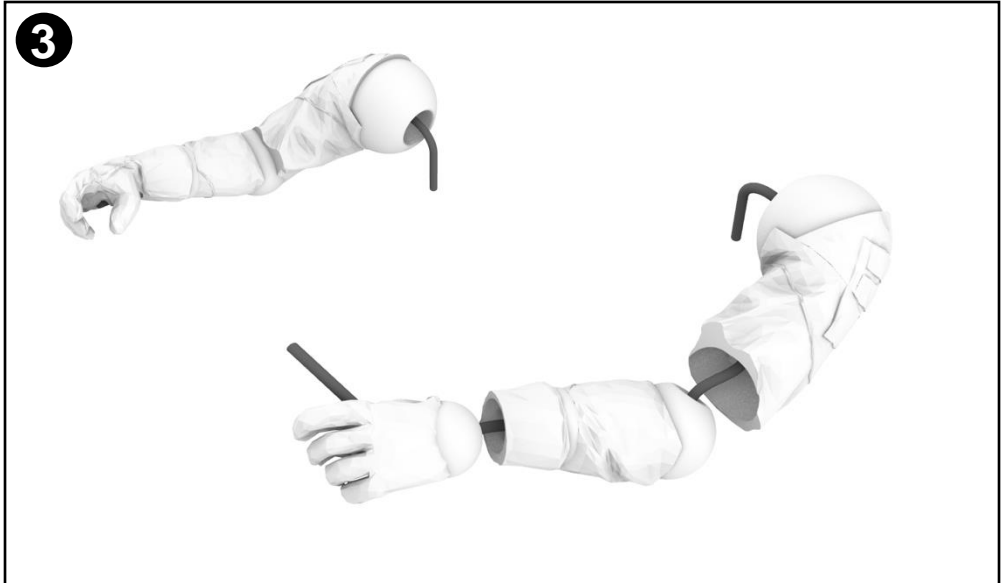
NOTE: Do not glue the cord at the other end.



3

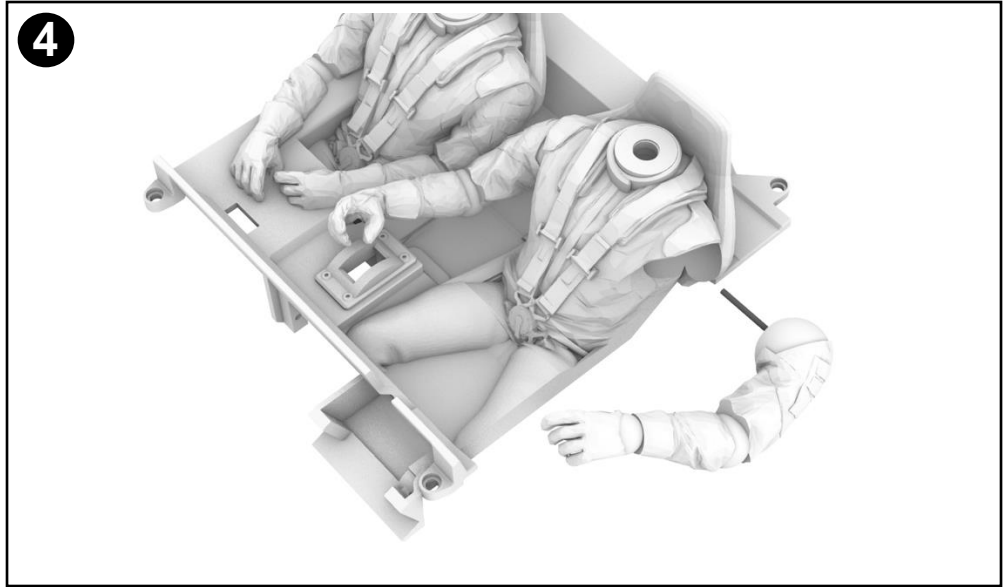
Repeat for the left arm

NOTE: the left arm has extra articulation in the wrist.



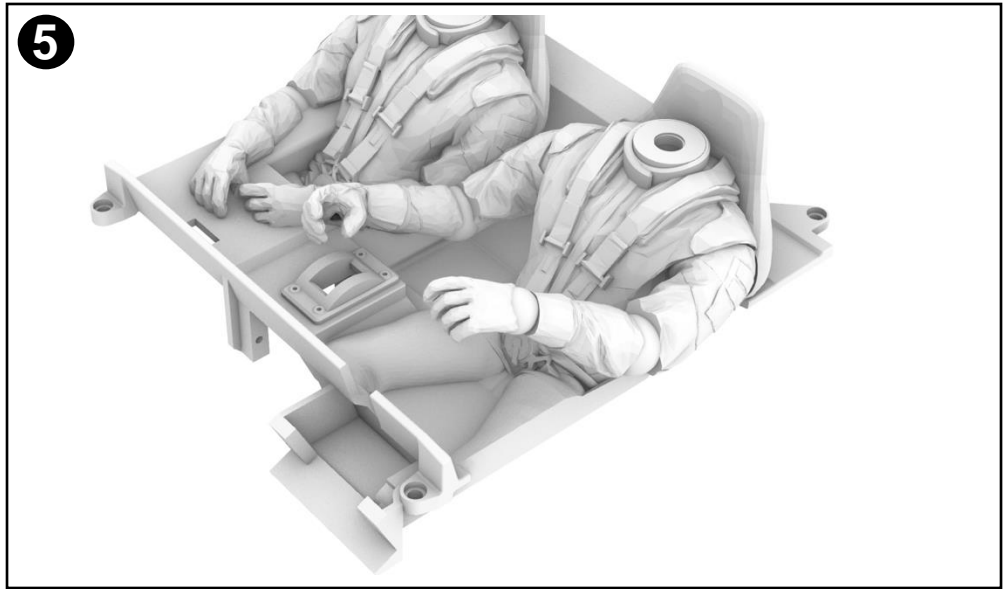
4

Insert cord of both arms into the driver arm sockets.



5

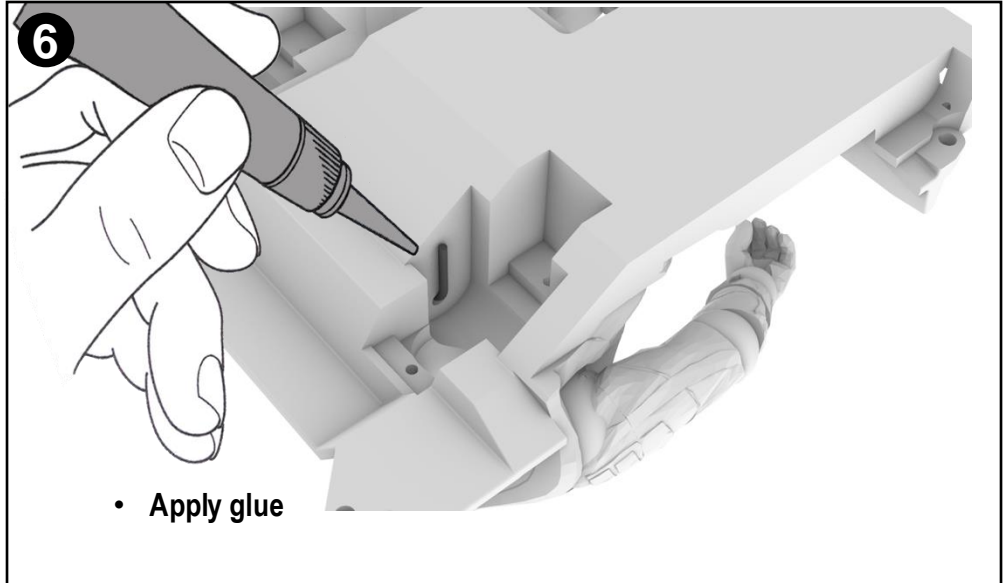
Pull cords tight to ensure both arms are located in the socket and can move freely.



6

Both right and left cord can be glue in place inside the body as shown.

NOTE: be careful not to get glue into the shoulder joint area.

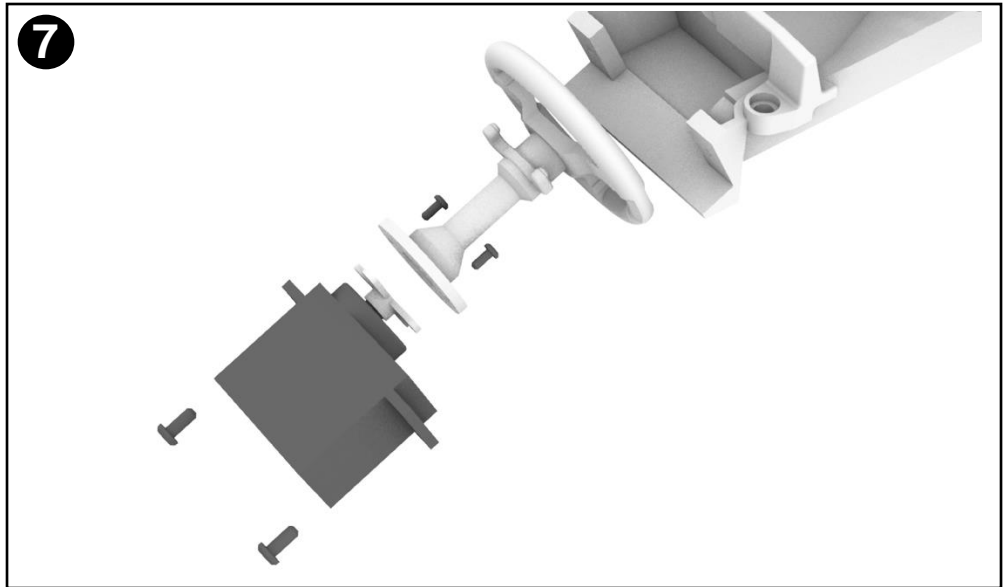


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Steering wheel assembly

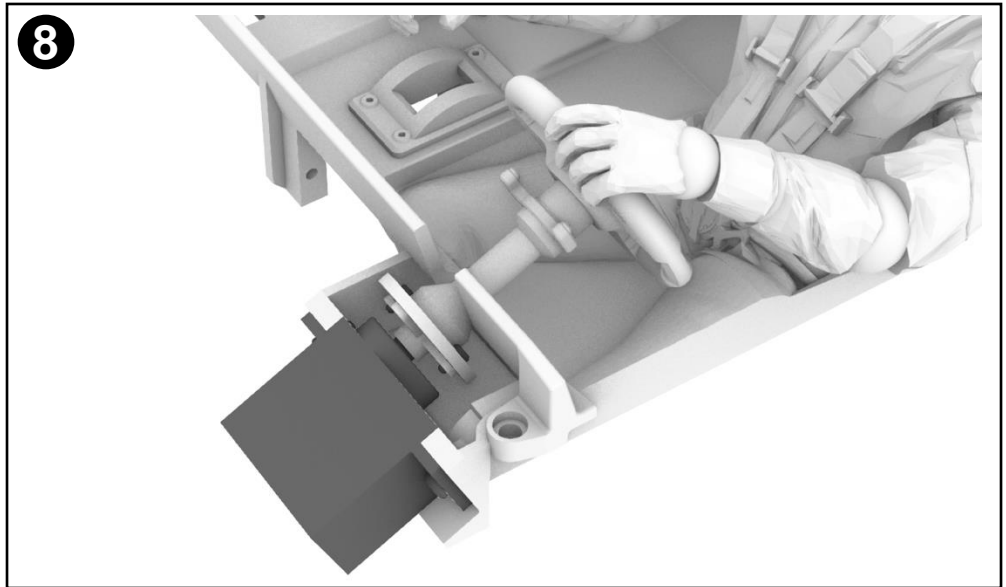
The steering wheel should be mounted to the stock servo horn on the micro servo. Use the screws provided with the servos.

NOTE: Ensure servo is centered before assembly



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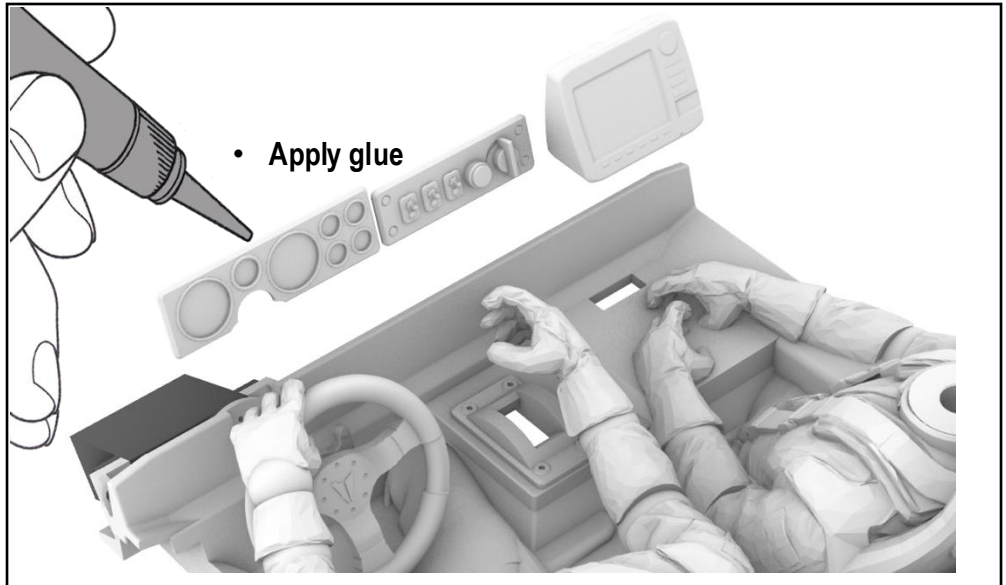
Mount the micro servo to the interior base with the mounting screws included with the servo.



9

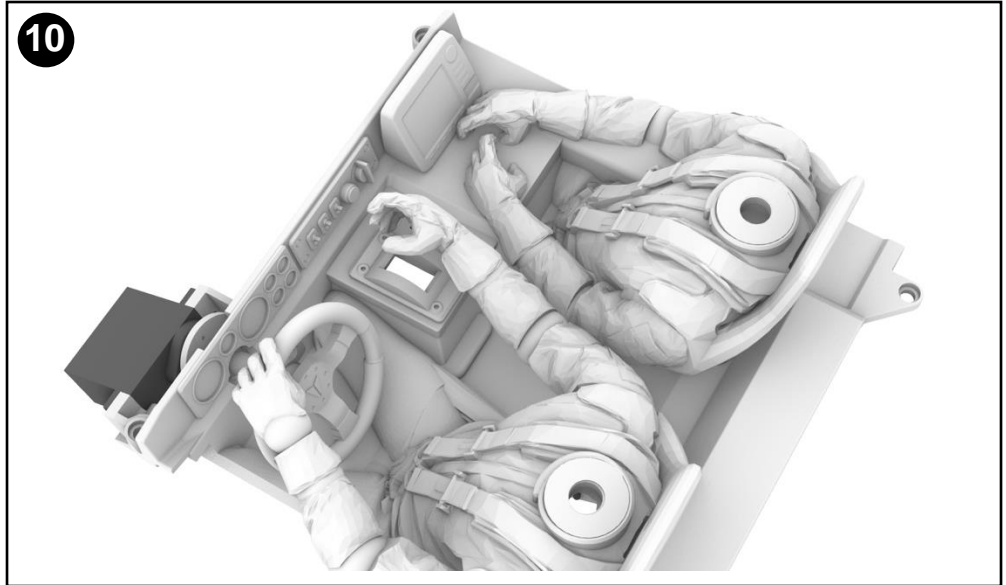
Glue the instruments to the interior base.

NOTE: Hot glue is recommended to mount the dash dials as it will be easy to remove later if the servo needs to be replaced or adjusted.



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Instruments installed.

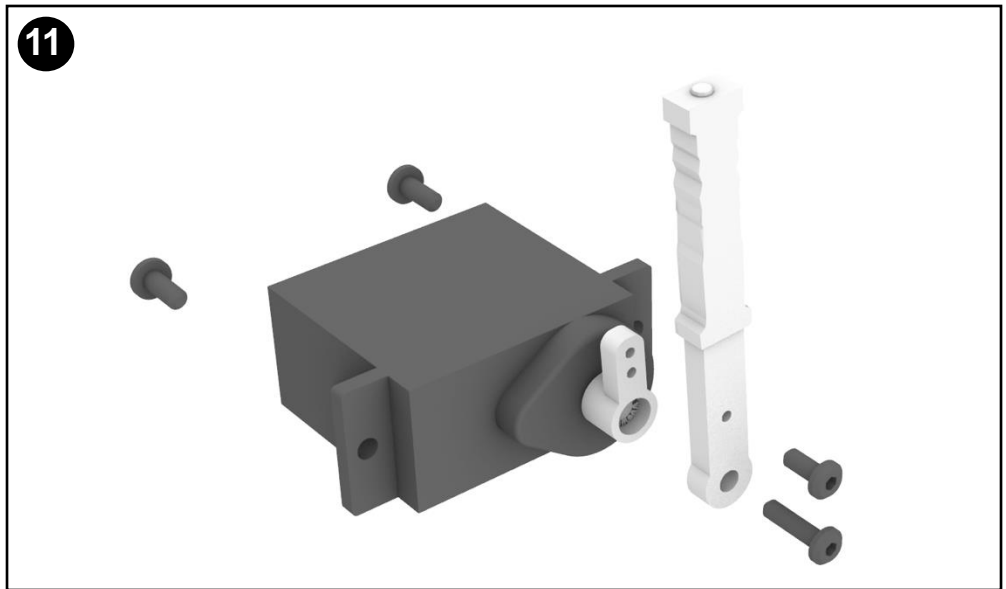


10

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Shift lever servo assembly.
Mount the shifter to the stock micro servo horn as shown.

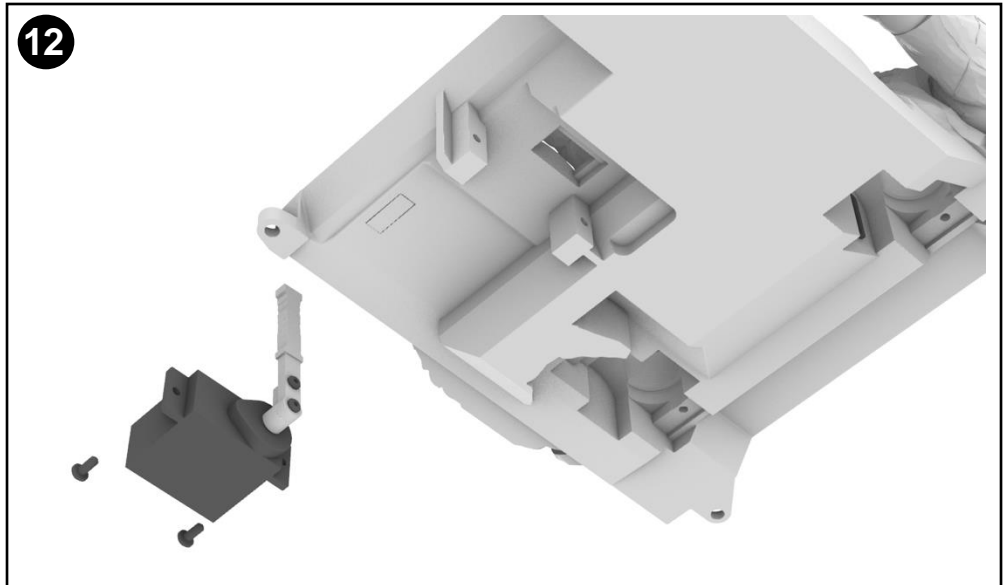
NOTE: be sure to center the servo before assembly.



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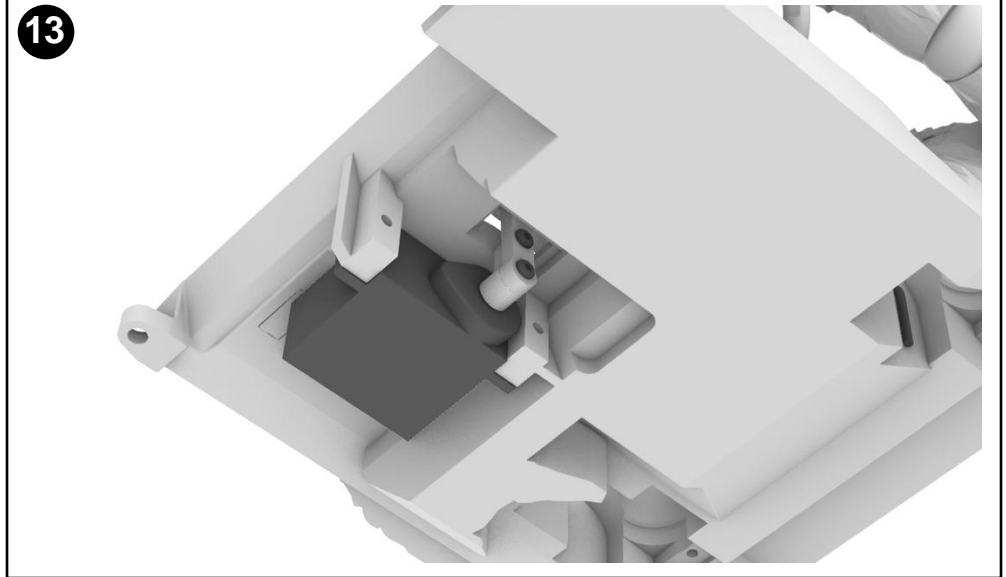
Install micro servo on the underside of the interior base using the screws included with the servo.



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Check the the shifter is not binding and can move freely

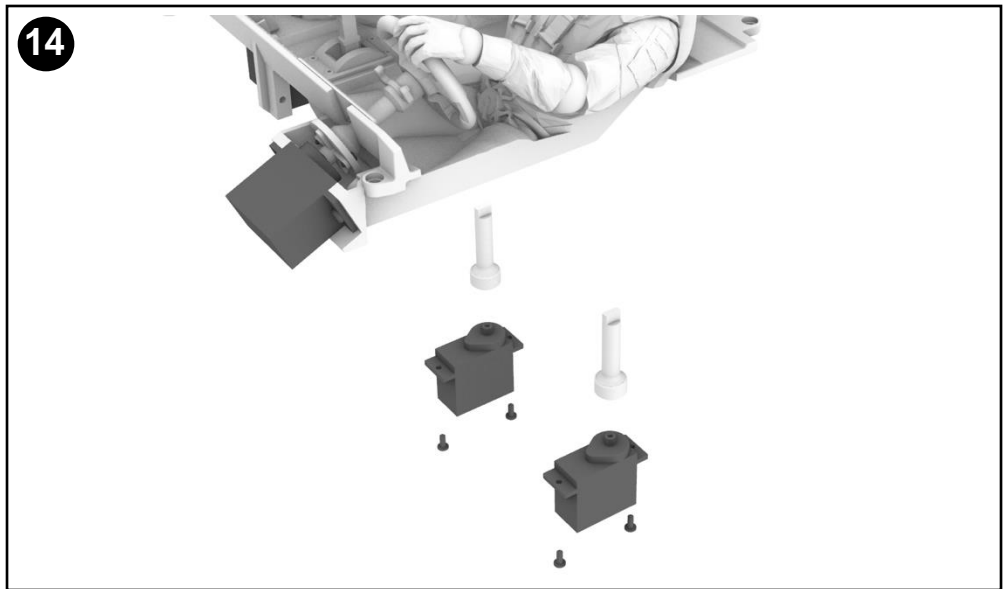


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Driver and passenger head servo install.

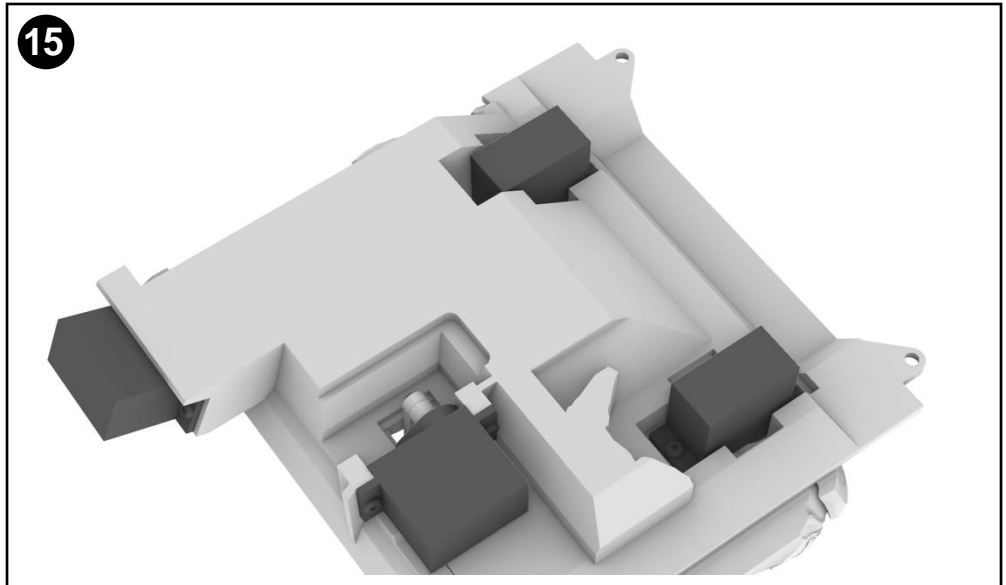
Install head posts onto your micro servo.

NOTE: Be sure your servos are centered before assembly.
Depending on your print quality, you might need to hand modify the neck posts to fit your servo securely.



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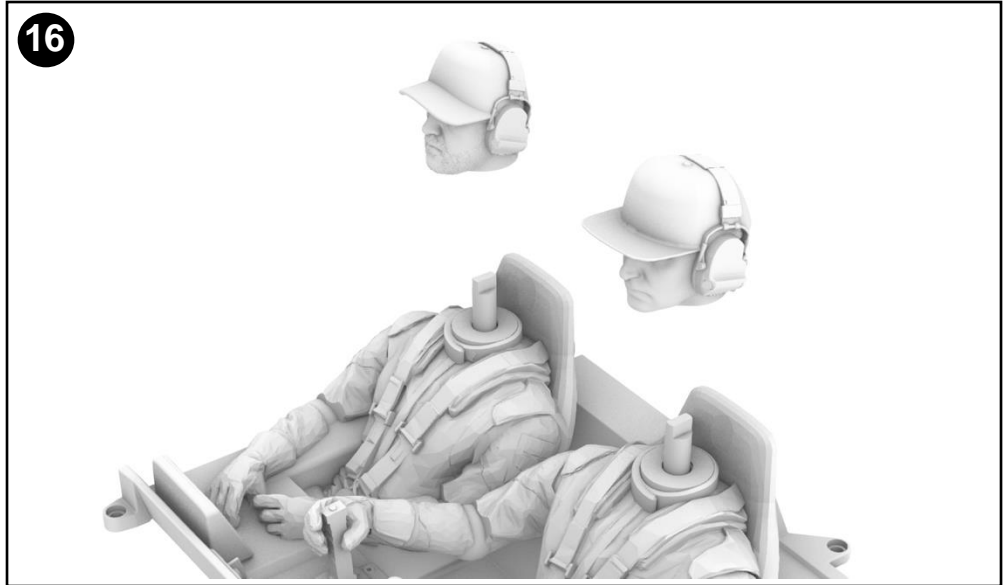
The micro servos are held in place with the stock screws that come with the servo.



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Install driver heads

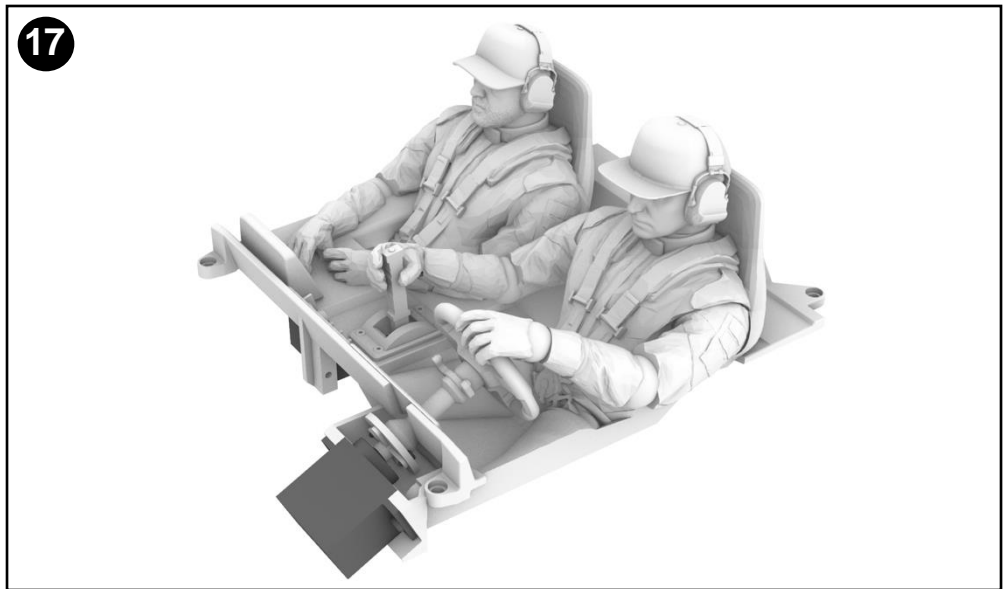
NOTE: Note depending on the servos you use, you may need to trim the post down to make the head flush with the body.



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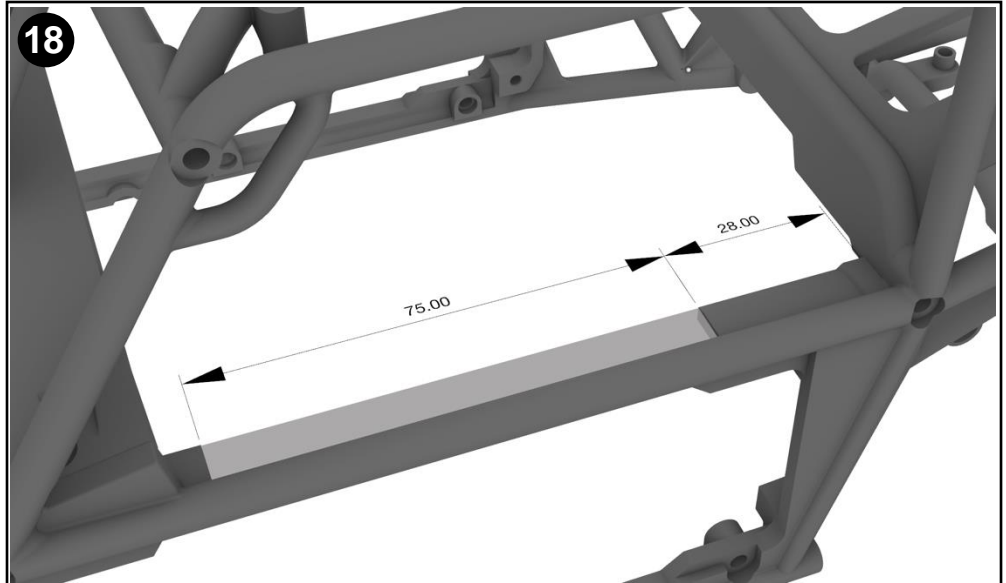
Completed interior ready to install into the Optic cage.

NOTE: Now is a good time to connect to your receiver & electronics to make sure everything is moving correctly.



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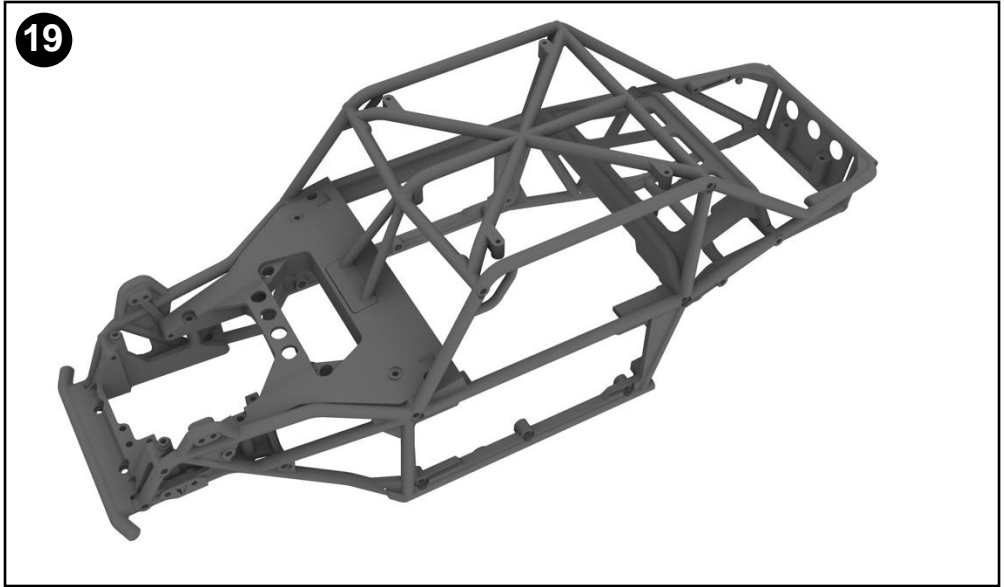
To maximize the movement of the driver arm, you will need to remove a section of the roll cage as shown.



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Optic cage modified.

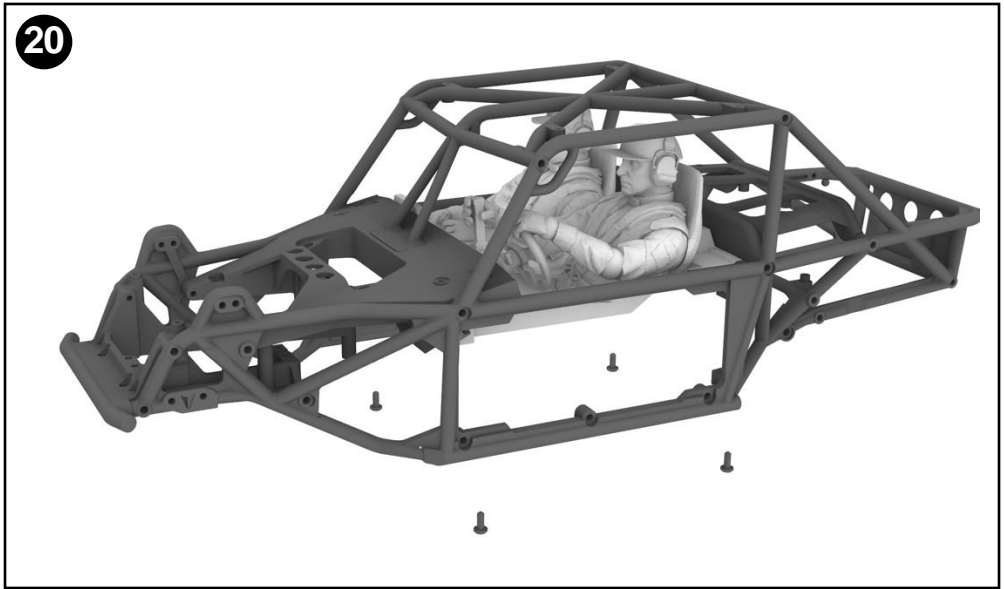
19



20

Install the interior into the cage using the stock screws and mounting points.

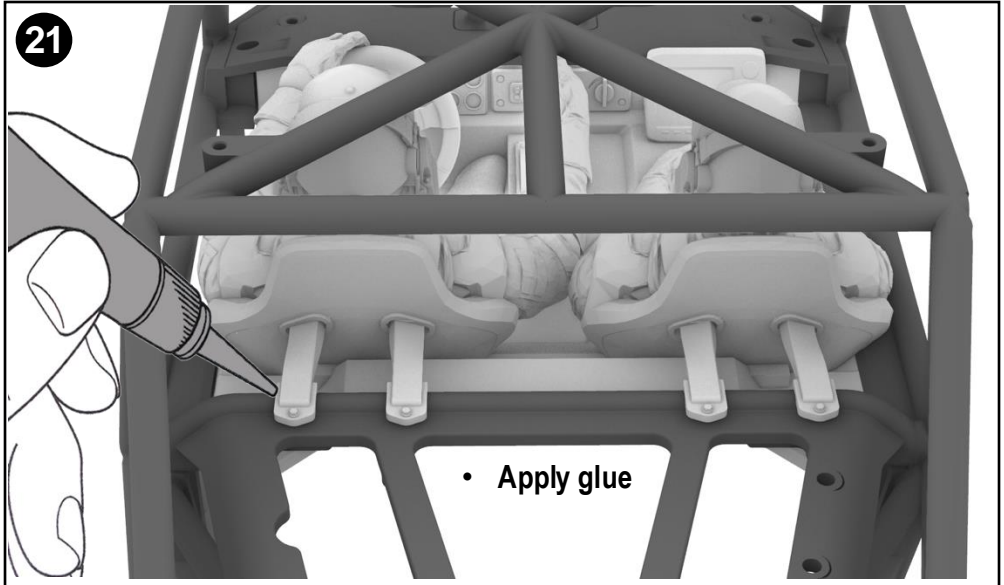
20



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Glue seatbelts to the back of the seat and onto the roll cage.

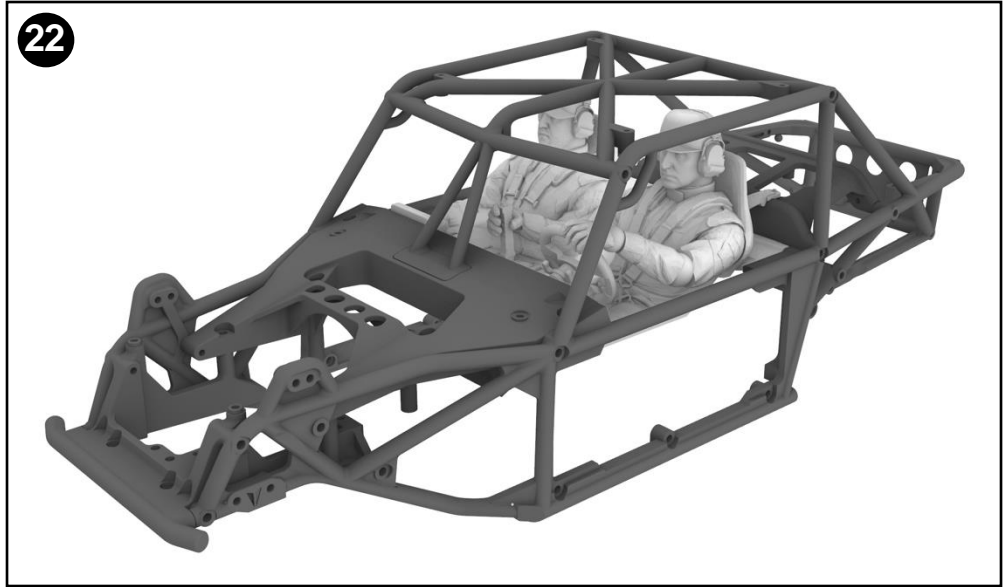
21



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Congratulations, install complete.

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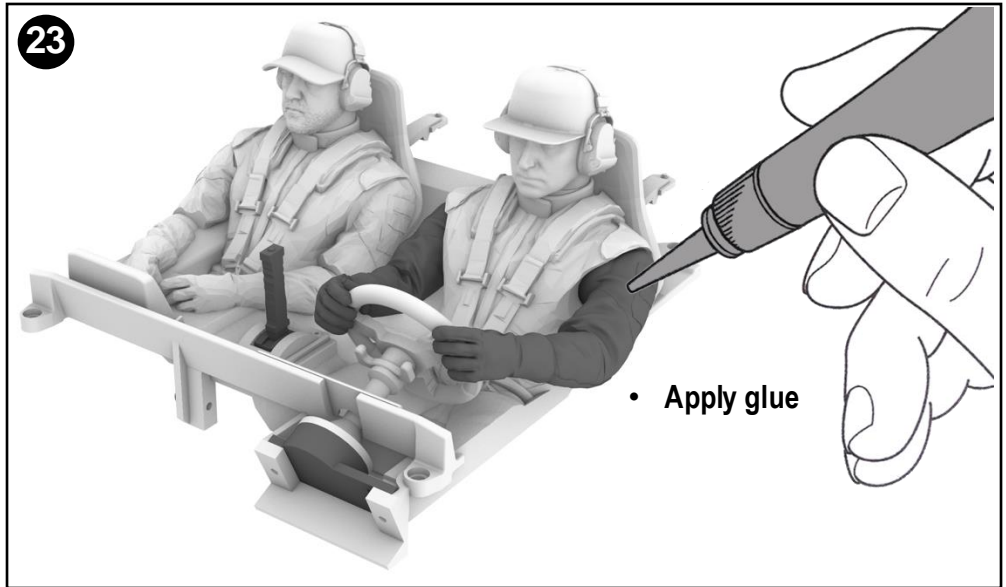
23

Optional fixed interior.

The parts shown in dark grey can be added if you do not wish to install micro servos.

All parts including the heads will need to be glued into place.

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Congratulations, your optic working interior is complete.

Servo set up: There are a few ways to connect your servos to your transmitter depending on the channels available and the features of your transmitter. The simplest way is to use servo lead y-connectors to connect all steering servos to the steering channel. For best results use a channel for each servo and the mixing function on the transmitter to program each servo movement depending on your specific needs.

Note: We recommend Bambu Lab PLA Matte for best results, however PLA has a lower melting point and you should not leave your interior stationary in direct sunlight for extended periods. Doing so might cause parts to warp or deform.