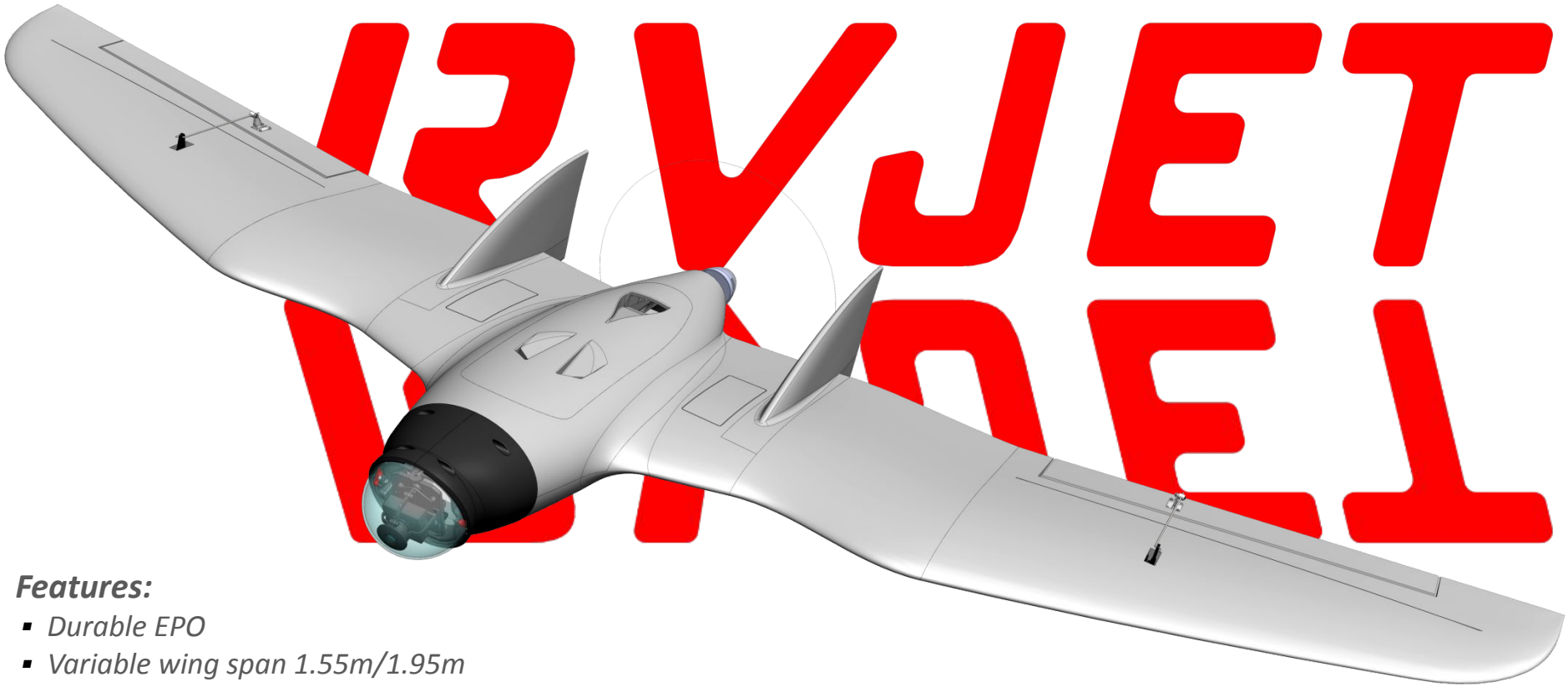
RVJET - Specially designed for UAS/FPV



Features:

- *Durable EPO*
- *Variable wing span 1.55m/1.95m*
- *Compact during transport (original packaging can be re-used)*
- *Included anti-vibration mount for Autopilot/RVOSD*
- *Internal pockets and cable channels enables easy installation*
- *Durable skid to protect the fuselage on rough surfaces*
- *Easy and safe to launch by hand*
- *Integrated hook for bungee launch*
- *Advanced nose gimbal for Gopro or micro cameras*
- *Choose between foam nose or gimbal nose*

TABLE OF CONTENTS

PLEASE READ THIS FIRST

Before building airframe!

- *Please read through the **complete** instructions prior to assembly and follow them*
- *Test fit each part before applying glue*
- *Make sure you know how and where you intend to install electronics before gluing parts together*
- *Brushless motor rotation direction must be confirmed*
- *The servo must be centred and the servo horn must be attached before it is glued into the wing*
- *Ensure that the skid and motor mount is properly glued to the fuselage*
- *The use of thick or medium CA glue with activator is recommended*

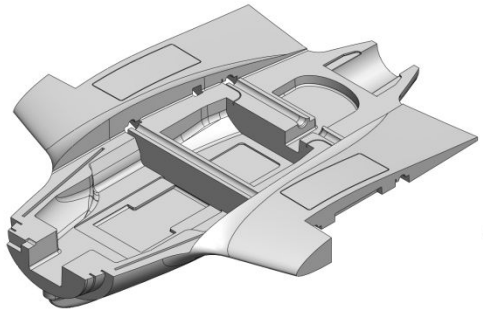
Before building gimbal!

- *Please read through the **complete** instructions prior to assembly and follow them.*
- *The supplied screws are specially designed for assembly and disassembly but:*
  - Do NOT over-tighten the screws – you will strip the thread of the plastic parts!!! -
- *The snap-lock between the ring and the camera holders has tight tolerance to avoid slack (SFP). Due to this it may be difficult to disassemble, please use caution to avoid breaking the parts*
- *The dome is of extreme high quality, the material used is clearer than glass but of course vulnerable to scratches. The very high quality domes are sold at extremely low prices so the user can always have spares*

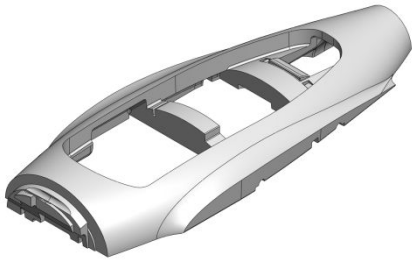
Before flying!

- *Before launch make sure you have correctly set reflex and throws and that the elevons move correctly*
- *Check that all foam hinges are undamaged*
- *We recommend usage of the foam nose during the first flights to protect the PnT from unnecessary damage*
- *Before flying the long wing configuration, learn and memorize how to exit the turning dive (ref: Q&A)*
- *Do not exceed VNE of 100kph when flying the long wing configuration*

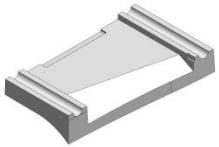
RVJET – Parts overview 1/3 (airframe)



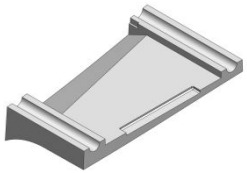
1x
BOTTOM FUSELAGE



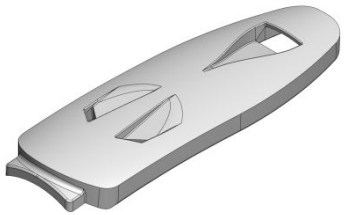
1x
TOP FUSELAGE



1x
FUSELAGE RIGHT COVER

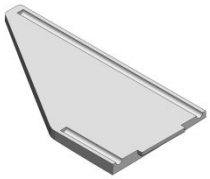


1x
FUSELAGE LEFT COVER

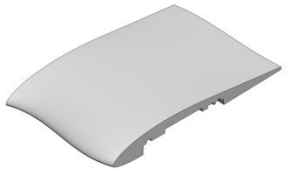


1x
FUSELAGE TOP HATCH

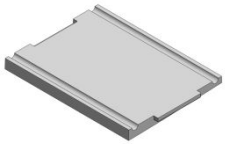
1x
RIGHT WING



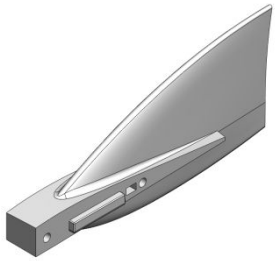
1x
RIGHT WING COVER



1x
RIGHT WING EXTENSION

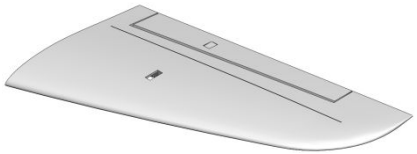


1x
RIGHT WING
EXTENSION COVER

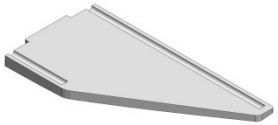


1x
RIGHT FIN

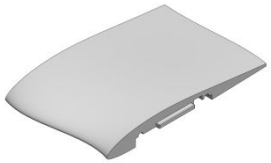
1x
LEFT FIN



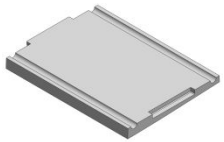
1x
LEFT WING



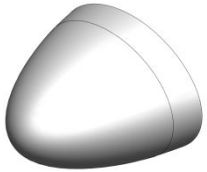
1x
LEFT WING COVER



1x
LEFT WING
EXTENSION



1x
LEFT WING
EXTENSION COVER



1x
NOSE

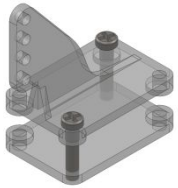
1x
SKID

RVJET – Parts overview 2/3 (airframe)

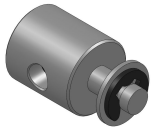
1x
MOTOR MOUNT

2x
WING SERVO

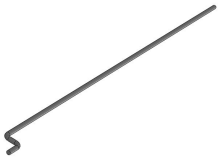
5x
SERVO CABLE



2x
CONTROL HORNS



2x
LINK STOPPER



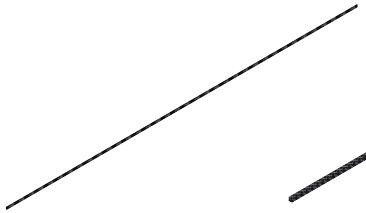
2x
PUSHROD

2x
FUSELAGE CF TUBE (D10x416MM)

2x
WING REAR CF TUBE (D10x486MM)

2x
WING FRONT CF TUBE (D10x286MM)

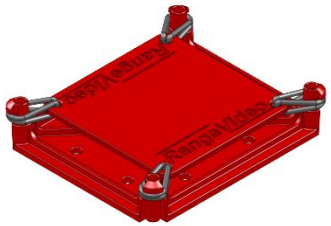
8x
CF ROD (D8x70MM)



2x
CF STRIP (1x3x472MM)

2x
SQUARE CF ROD (3x3x145MM)

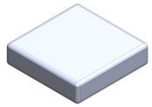
1x
POWER PACKAGE [sold separately]



1x
VIBRATION MOUNT

1x
BATTERY TRAY

1x
BATTERY STRAP

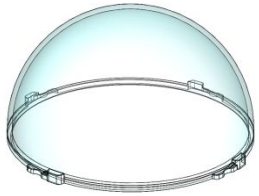


4x
MAGNETS (10x10x2MM)

RVJET – Parts overview 3/3 (gimbal)

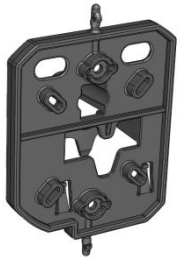
1x
RIGHT MAIN HOUSING

1x
LEFT MAIN HOUSING

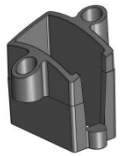


3x
CLEAR DOME

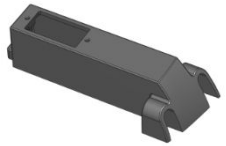
1x
GIMBAL RING



1x
BASE PLATE



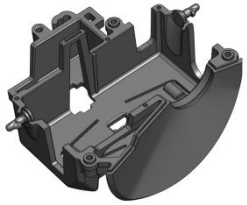
1x
RIGHT SERVO HOLDER



1x
LEFT SERVO HOLDER

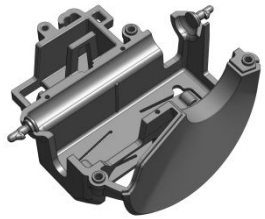
2x
CAMERA BRACKET

2x
PIVOT CLIP



1x
GOPRO 1&2 HOLDER BOTTOM

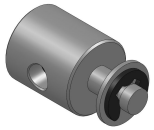
1x
GOPRO 1&2 HOLDER TOP



1x
GOPRO 3 HOLDER BOTTOM

1x
GOPRO 3 HOLDER TOP

1x
SERVO CLIP



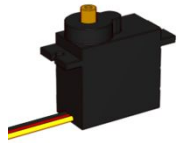
6x
LINK STOPPER
[preinstalled]

20x
PLASTIC SCREW

1x
SERVO HORN

1x
SERVO HORN V-SHAPE

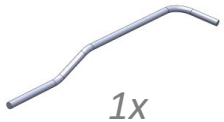
2x
SERVO HORN SCREW



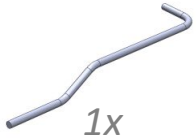
2x
PNT SERVO

1x
TILT LINKAGE
[18mm]

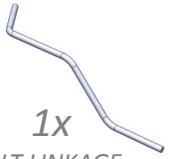
1x
PAN & TILT LINKAGE
[26mm]



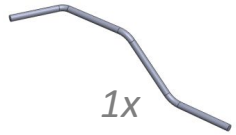
1x
PAN LINKAGE
[right]



1x
PAN LINKAGE
[left]



1x
TILT LINKAGE
[top]

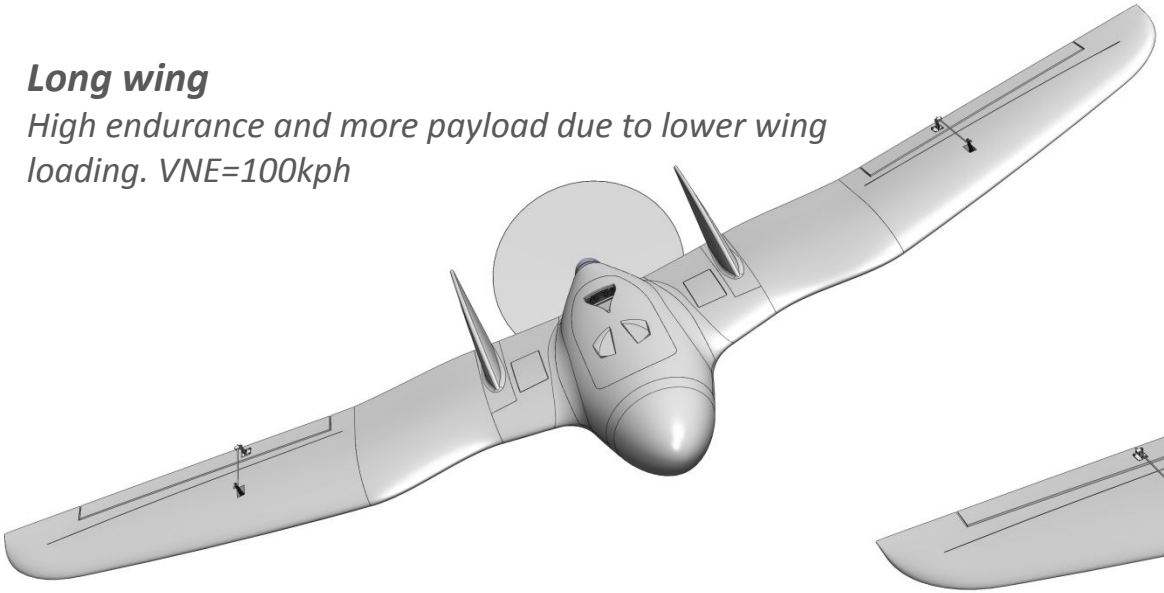


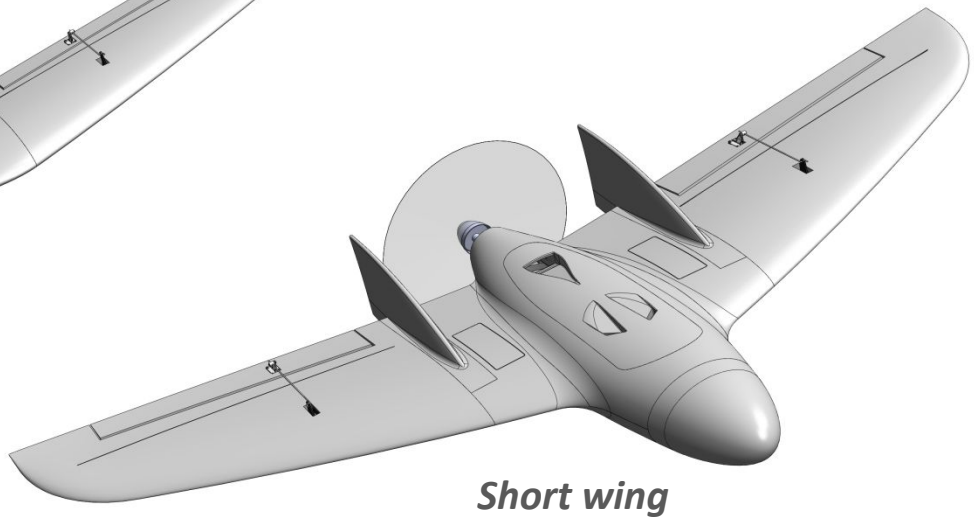
1x
TILT LINKAGE
[bottom]

RVJET – Airframe Configuration Overview

Long wing

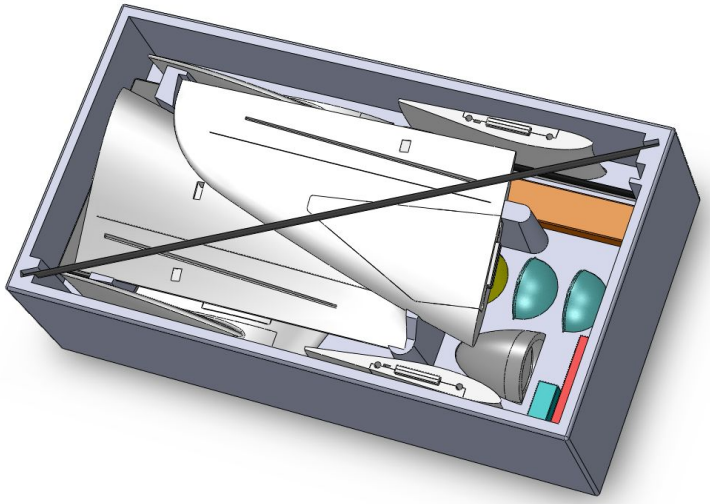
High endurance and more payload due to lower wing loading. VNE=100kph





Short wing

High agility, fast response and capable of high speed (>170kph)

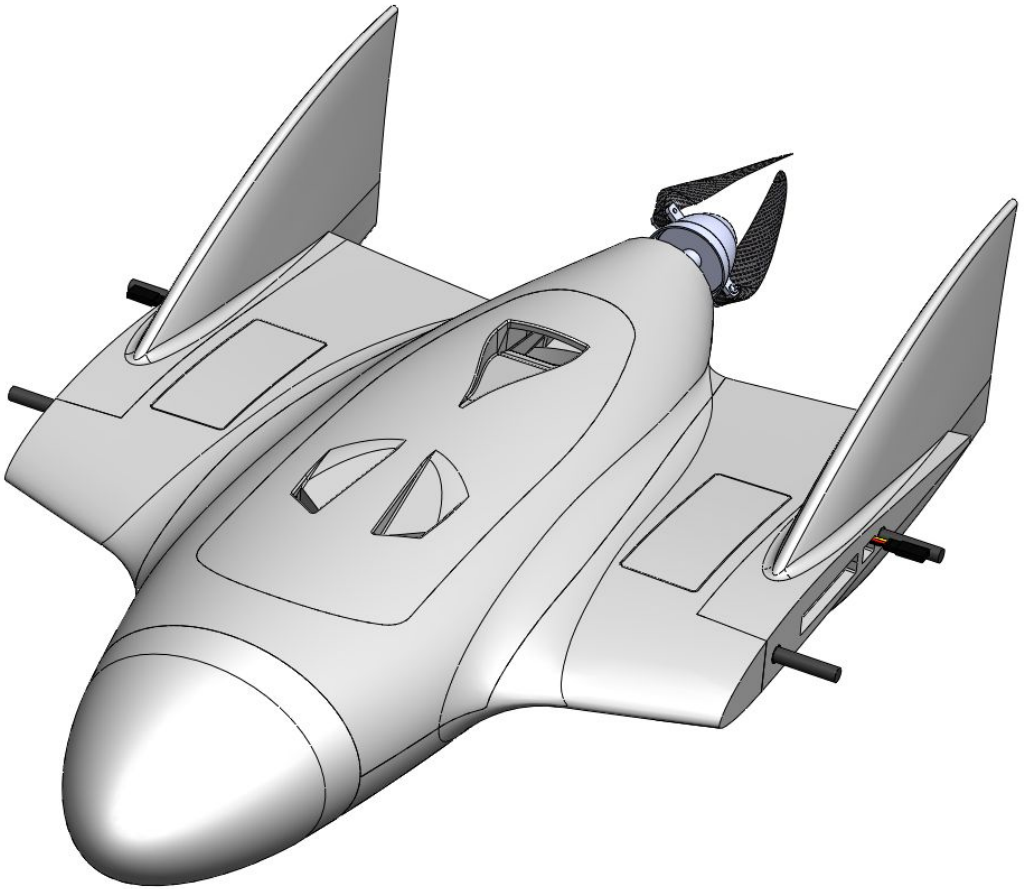


Transport and store

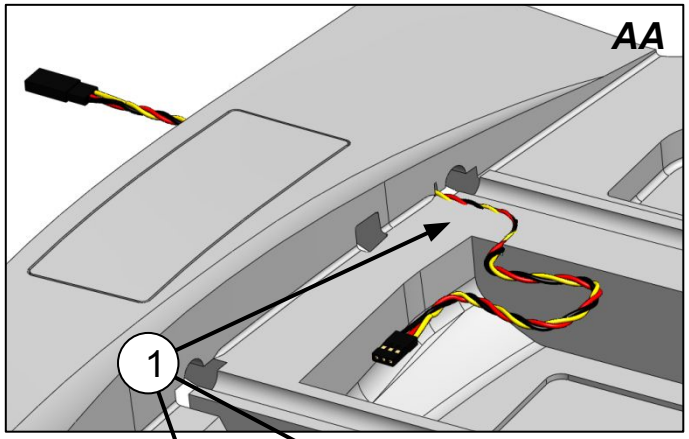
The RVJET comes packed in a foam interior which can be re-used for transport and storage of your model in between flights
(when used with the long wings small adjustments are required)

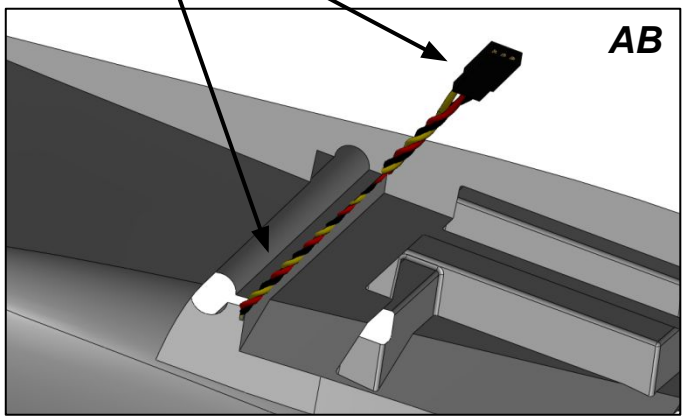
Assembly Instructions for the

RVJET FUSELAGE



RVJET – Fuselage Assembly 2/6



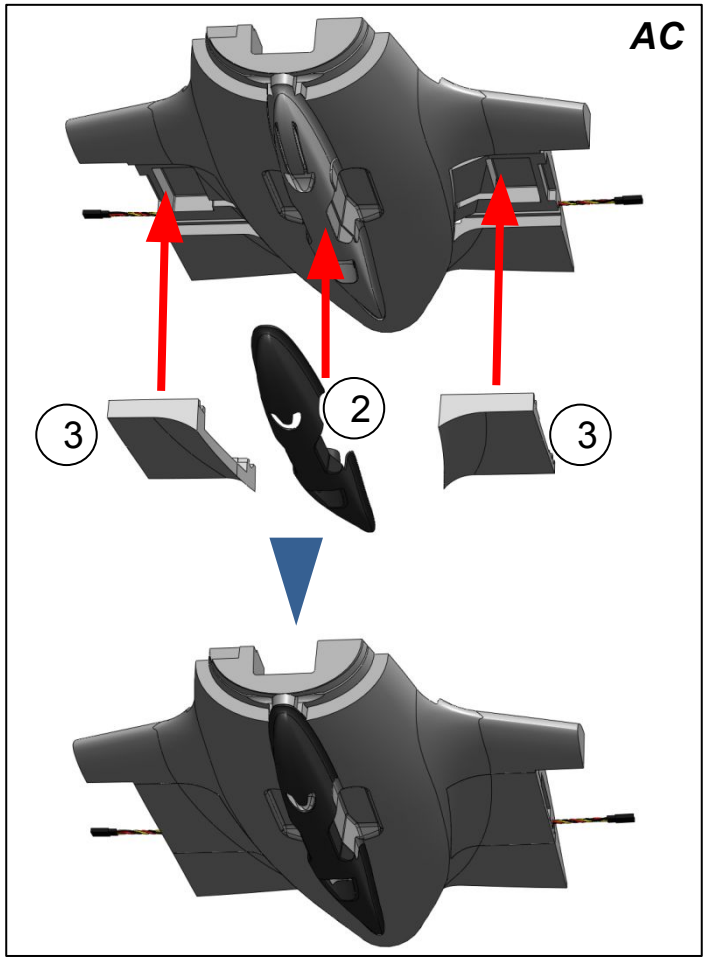


1. Route servo cables from the inside of the bottom fuselage to the wings

! The cable is thicker than the slot in the foam requiring the cable to be pressed into the slot

! Ensure there is enough cable inside to reach the RVOSD

! Test mount the fins and make sure the connectors reaches through the holes in the fins



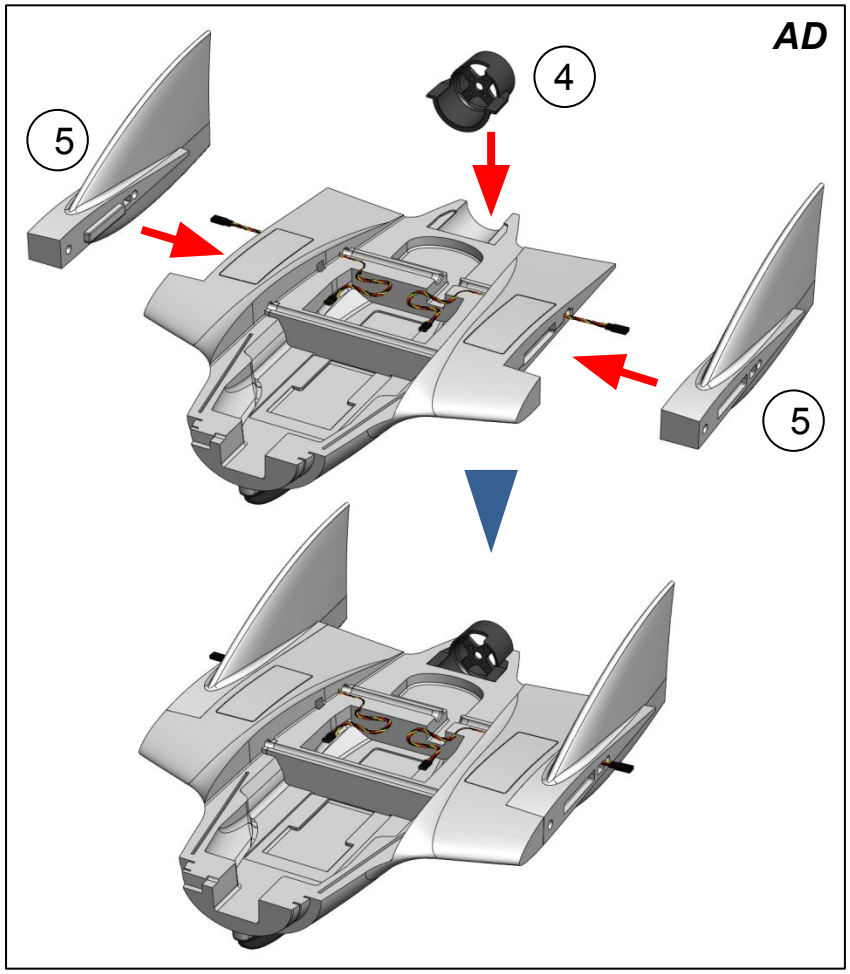
2. Glue the skid to the bottom fuselage

! Make sure the whole surface between the parts is glued

3. Glue the left and right covers to the bottom fuselage

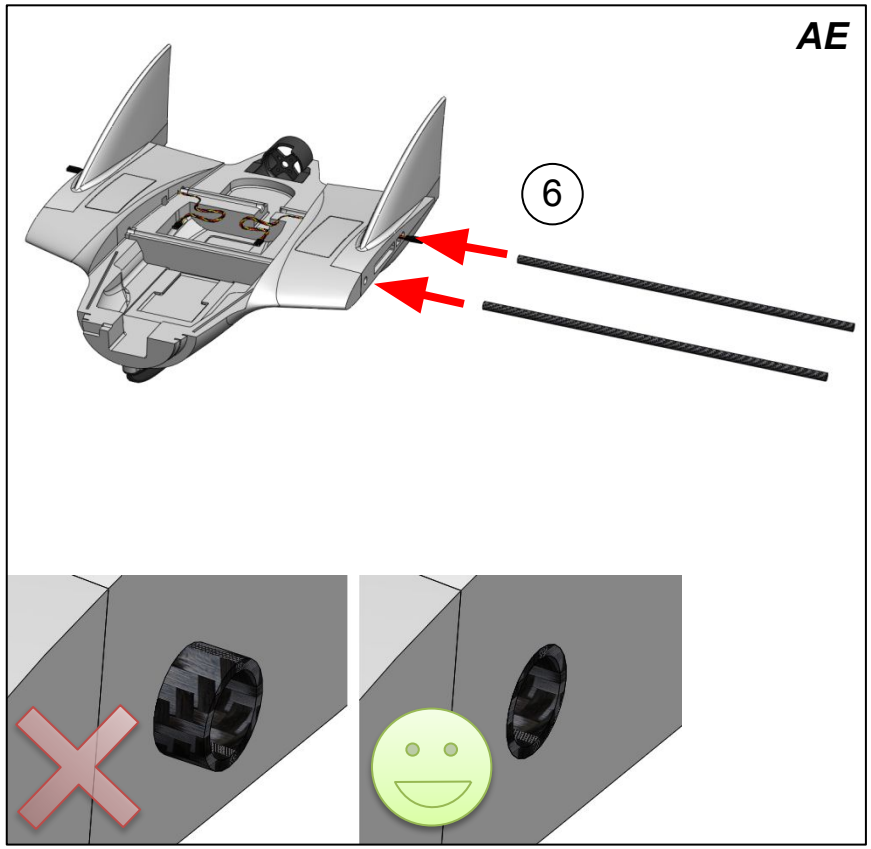
! The internal pockets can be used for VTx/RCRx or other electronics (ref: Setup)

RVJET – Fuselage Assembly 3/6

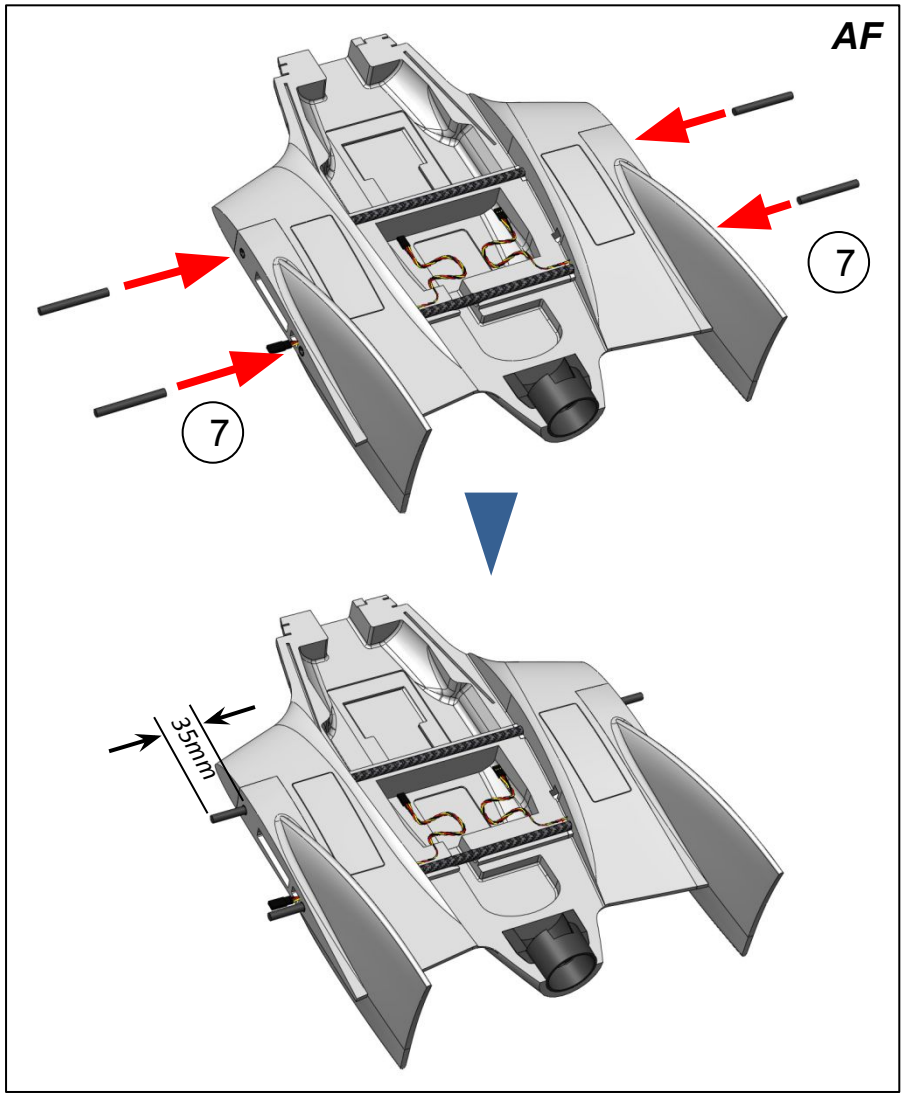


4. Glue the motor mount to the bottom fuselage
! Make sure the whole surface between the parts is glued

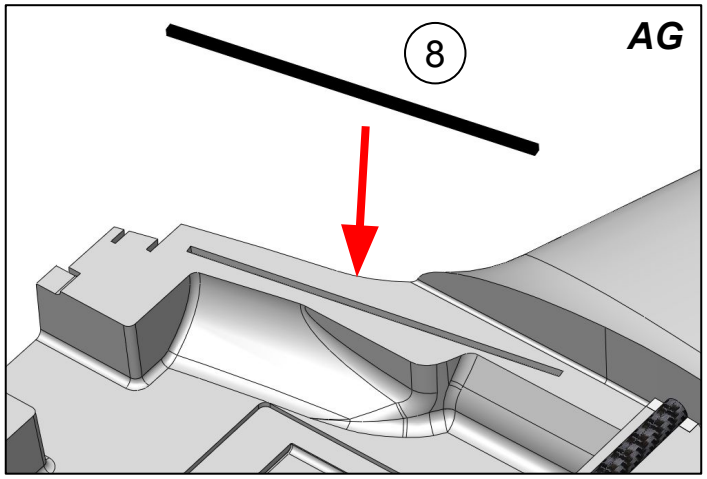
5. Glue the left and right fins to the bottom fuselage
! Ensure the servo cables exits through the square holes



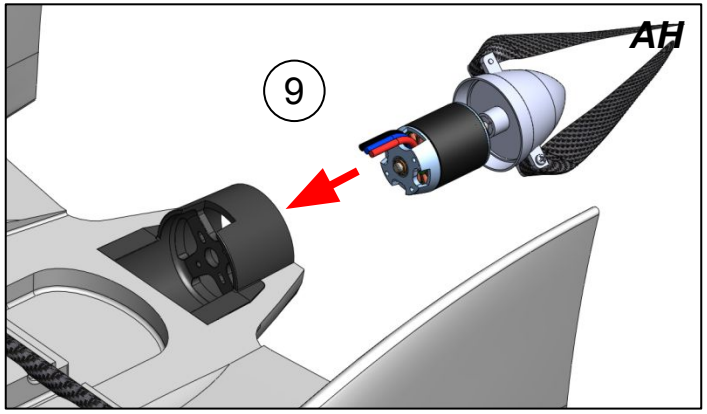
6. Glue the CF-tubes to the fuselage
! Make sure the tube does not stick out on the sides



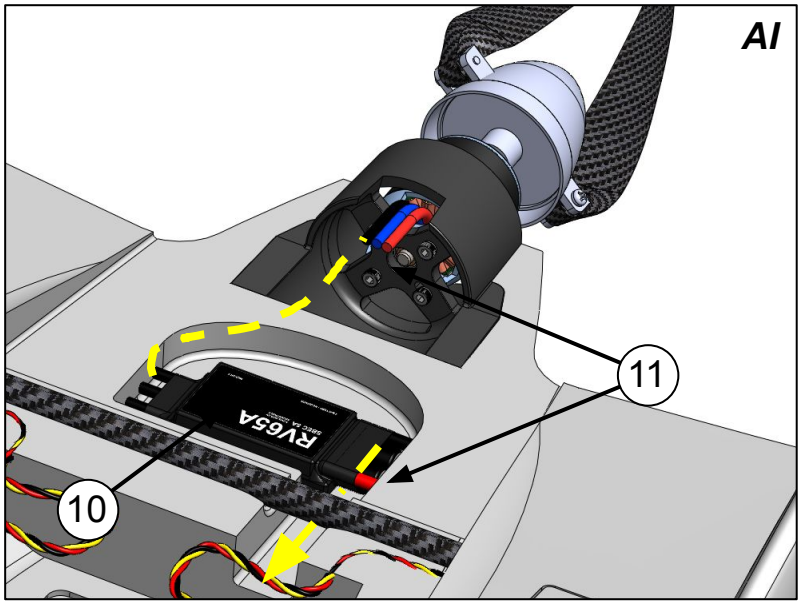
7. Glue the CF-rods 35mm (1.4in) into each side of the fuselage CF-tubes
! Some sanding might be required on the rods



8. Glue the square CF-tube into the recess in the front of the bottom fuselage (repeat for the other side)

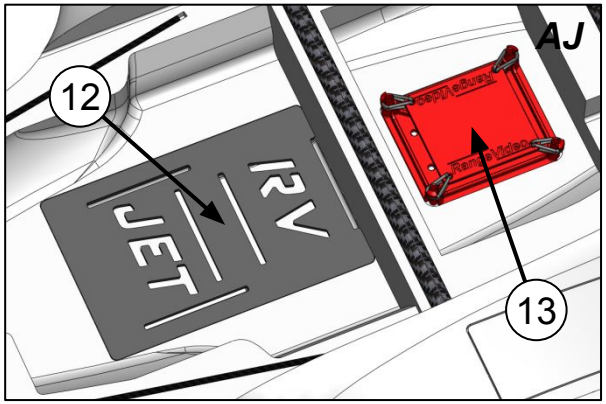


9. Install the motor on the motor mount
! Any adjustments to the thrust angle are easiest to do now
! Hex screws are recommended for easier access to motor
! The motor cables should go through the upper hole of the motor mount



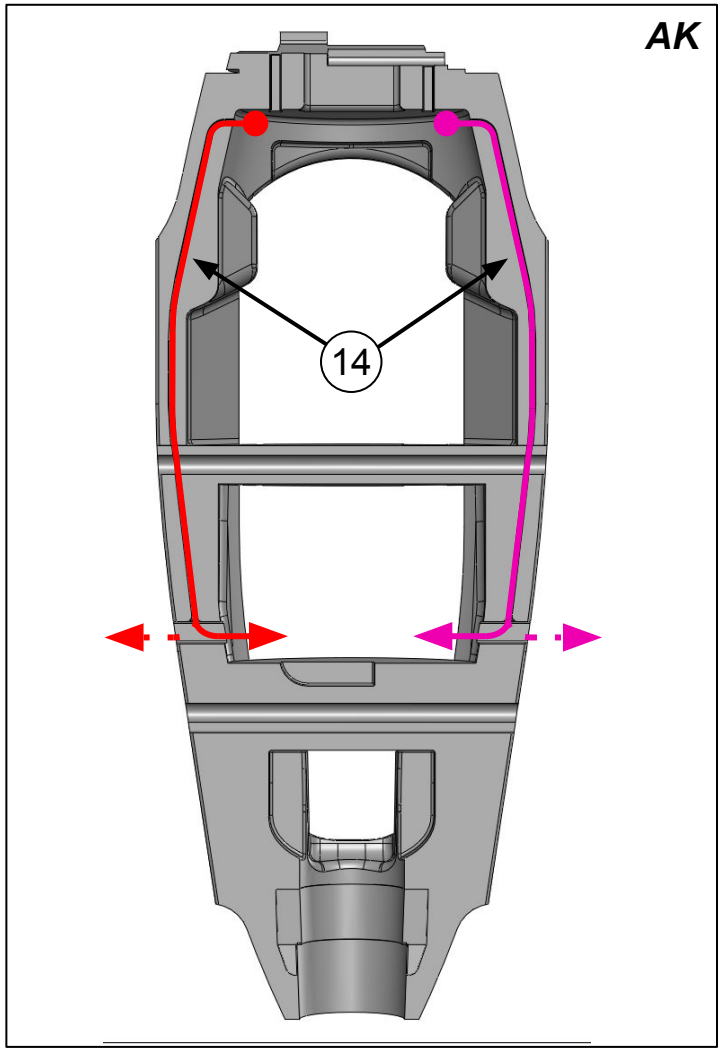
10. Install the ESC between the CF-tube and motor mount

11. Connect the ESC to the motor, route power and signal cable
***!** Test run the motor with the PROPELLER OFF to ensure the motor is spinning in the correct direction*



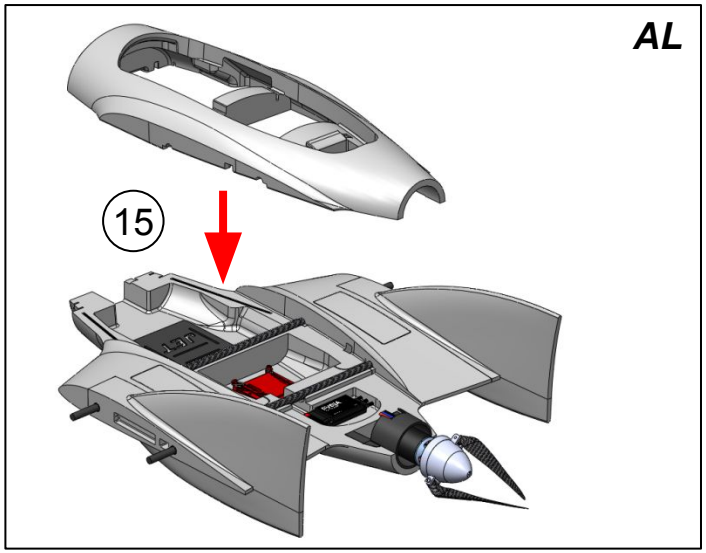
12. Glue Battery tray in the large recess (front compartment)
***!** Recommended to install strap now*

13. Glue Vibration mount in the small recess (rear compartment)



14. Route cables from gimbal servos and camera to RVOSD
***!** The dotted lines shows alternative routes to wing pockets*

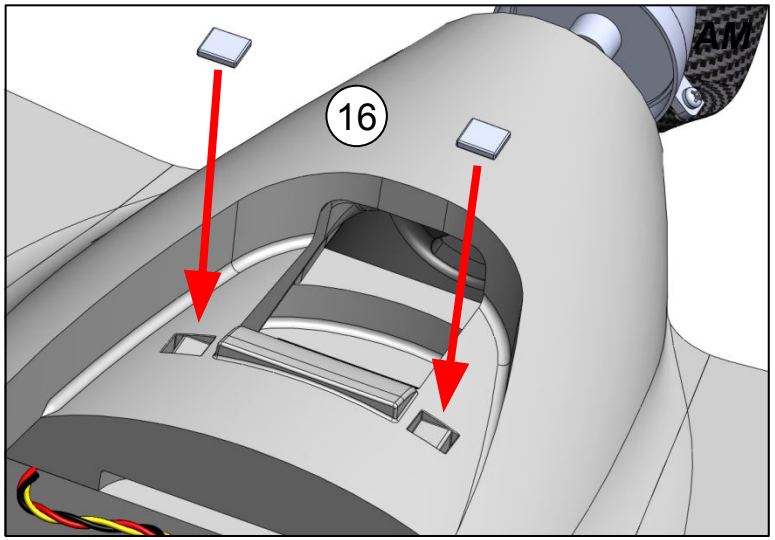
RVJET – Fuselage Assembly 6/6



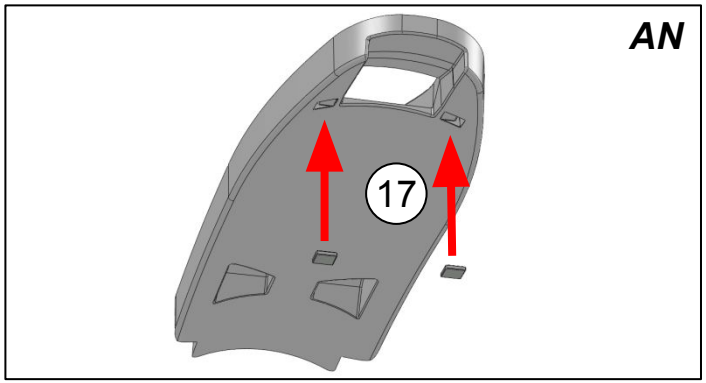
15. Glue the top fuselage to the bottom fuselage

! Make sure the whole surface between the parts is glued

! Ensure the motor mount is also glued to the top fuselage

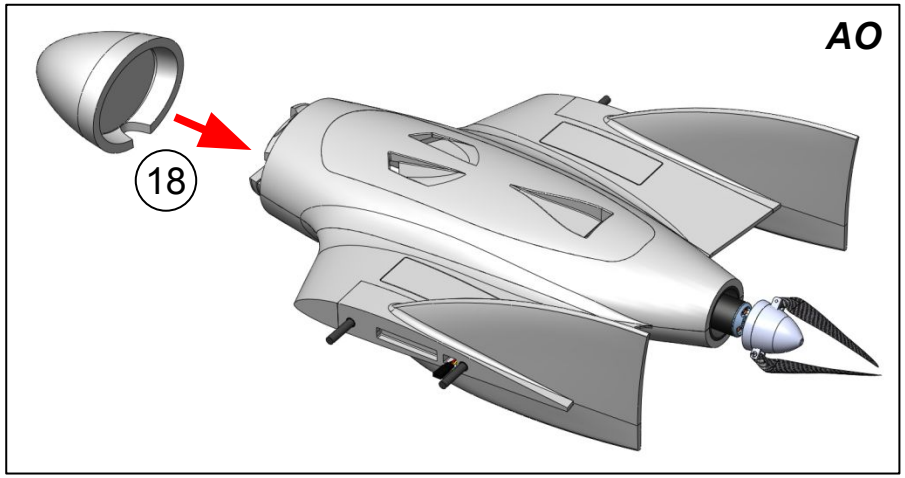


16. Glue magnets horizontally



17. Glue magnets horizontally

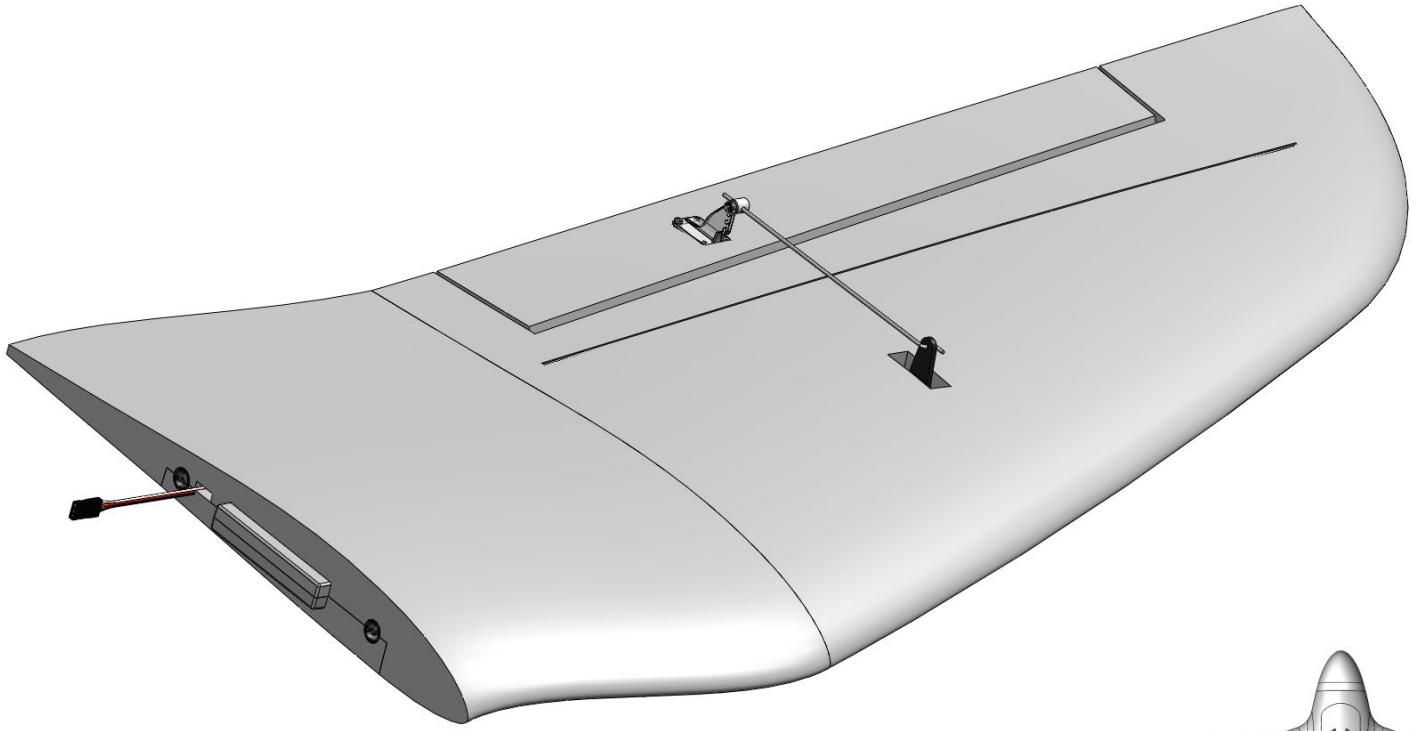
! Before gluing the magnets to the top hatch ensure that they are correctly positioned (magnetically) in relation to the magnets glued to the top fuselage

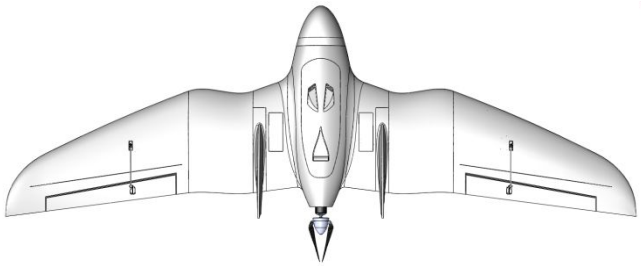


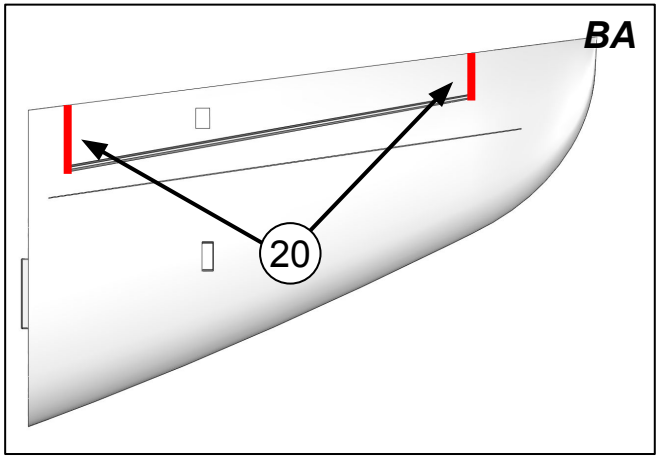
18. Attach the EPO-nose or the PnT-gimbal (see separate instructions)

Assembly Instructions for the

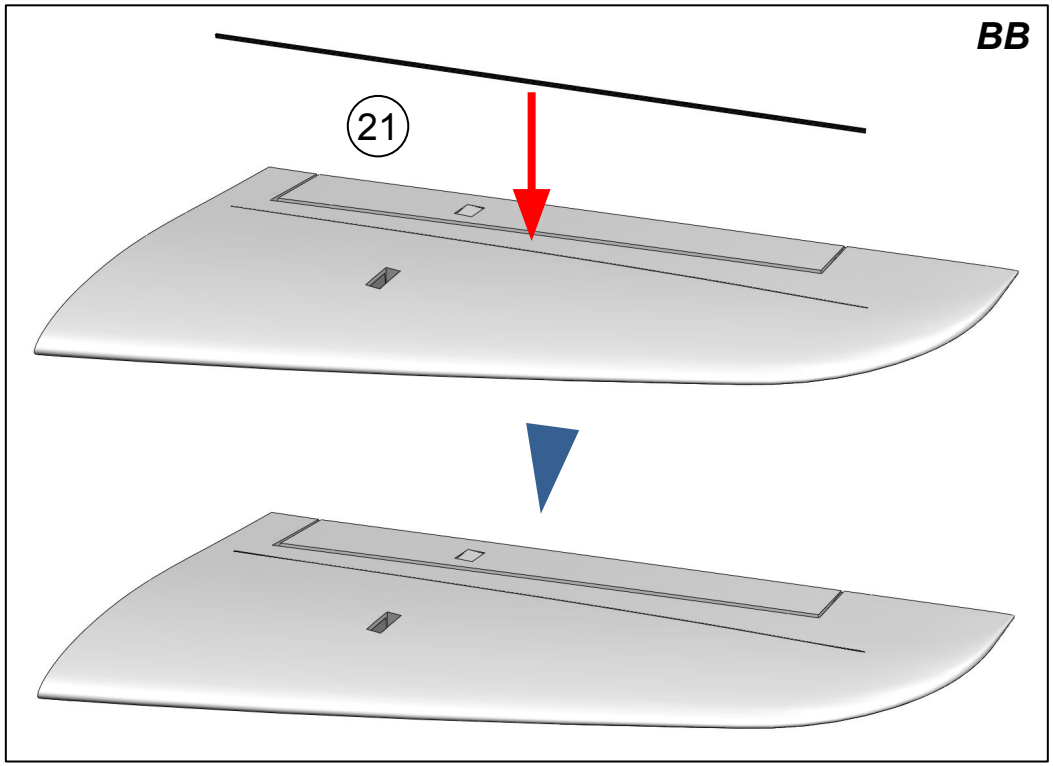
LONG RVJET WING (SPAN 1.95M)







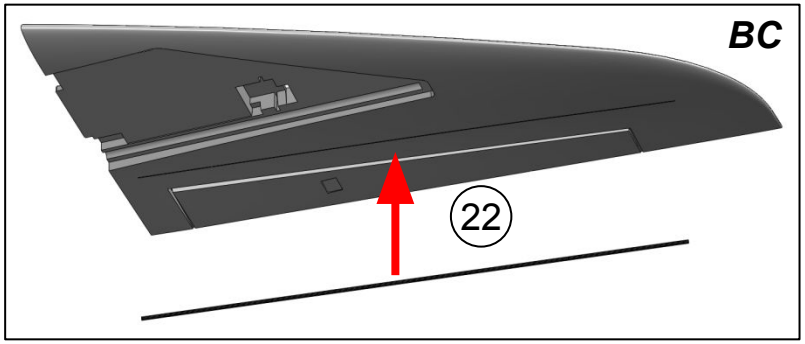
20. Remove the foam on the sides of the elevons



21. Glue CF-strip in the top slot of the wing

! Ensure that the strip fits fully before applying glue

! Ensure that the strip is flush to the surface of the wing

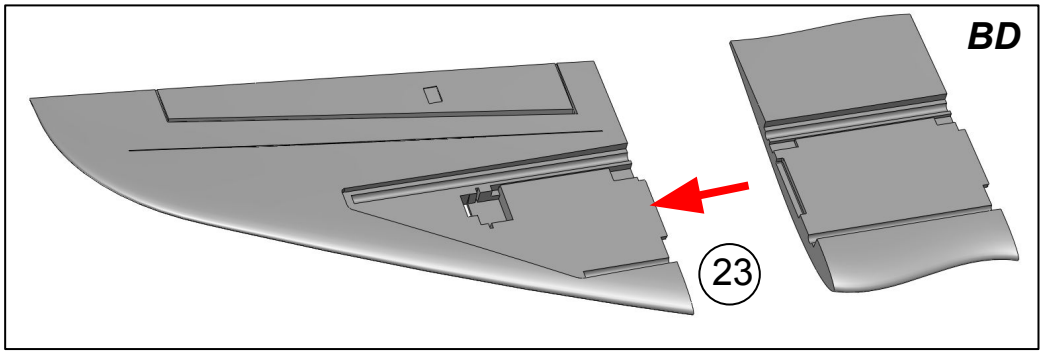


22. Glue CF-strip in the bottom slot of the wing

! Ensure that the strip fits fully before applying glue

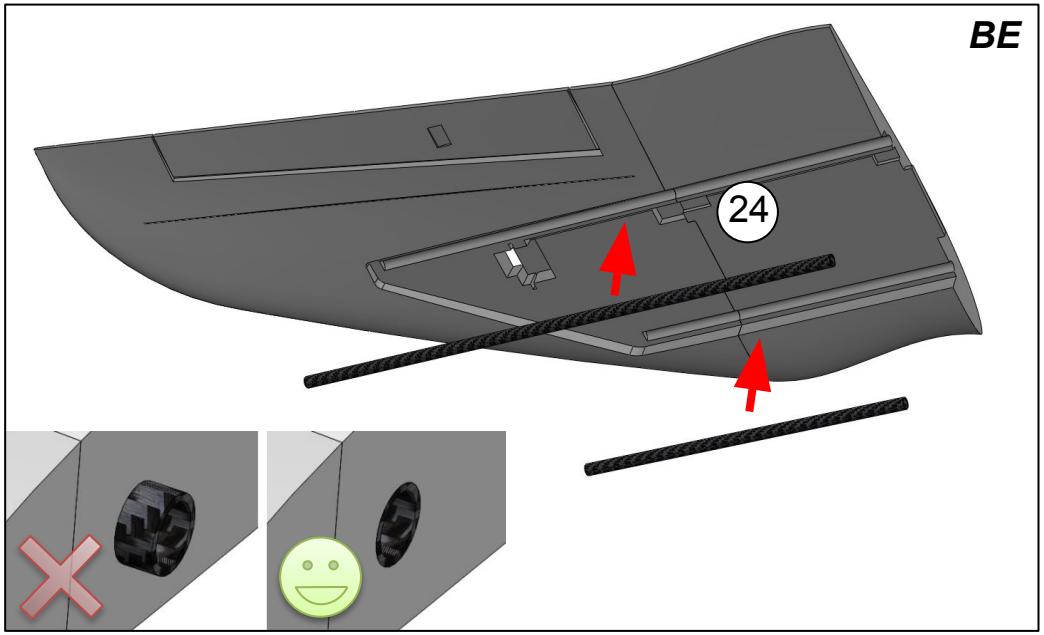
! Ensure that the strip is flush to the surface of the wing

RVJET – Long Wing Assembly 3/4



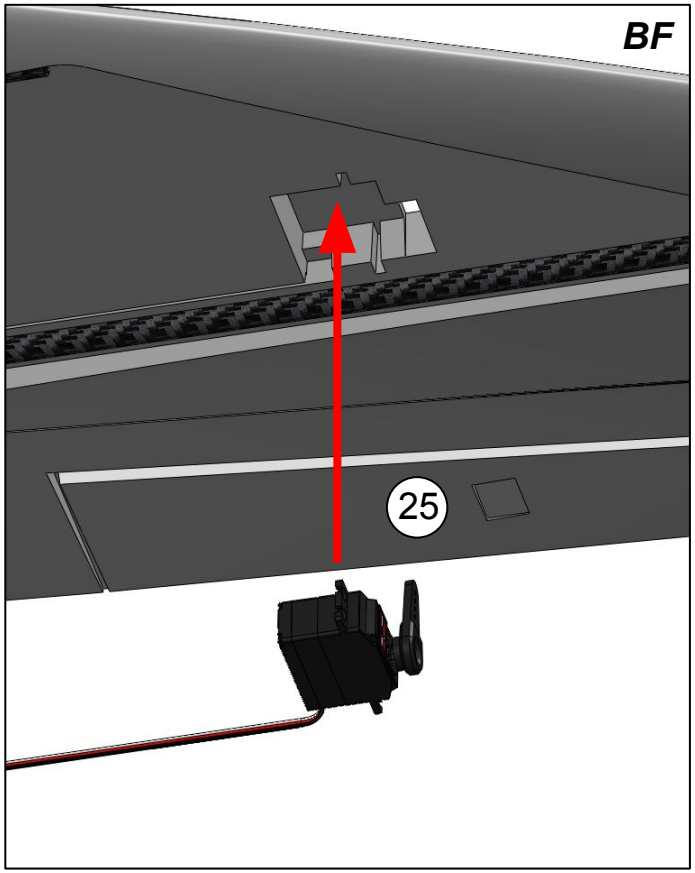
23. Glue wing extension to wing

! If you want to fly with the short wing, skip to instructions for SHORT RVJET WING



24. Glue the wing CF-tubes to the fuselage

! Make sure the tube does not stick out on the sides

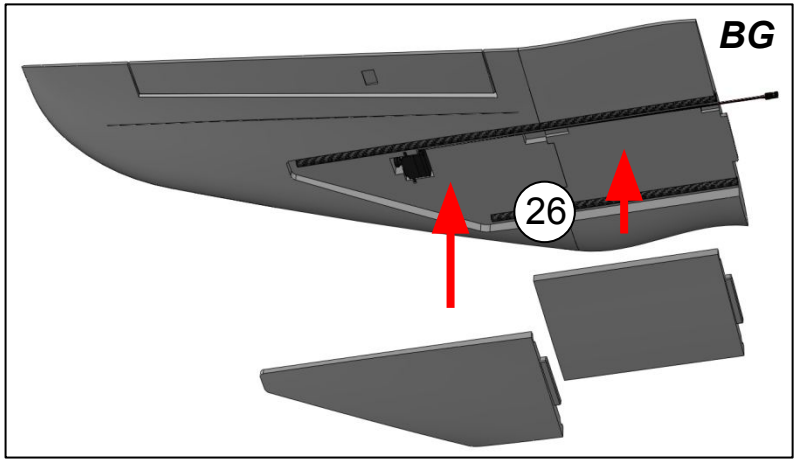


25. Install servo in servo tray

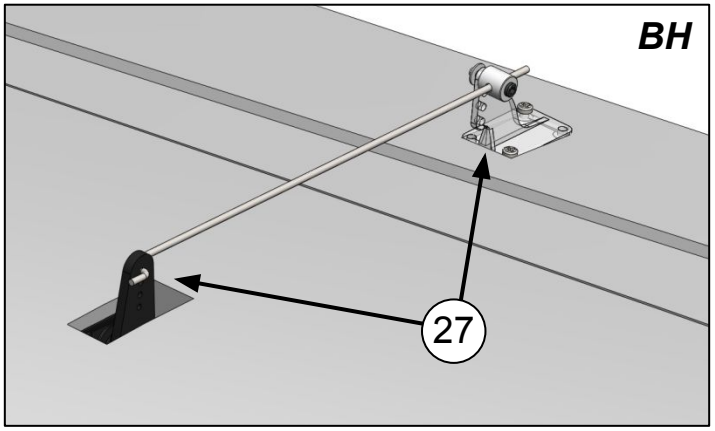
! Make sure the servo is centred and the control arm installed

! For easier replacement only glue the servo to the bottom cover (see step 26)

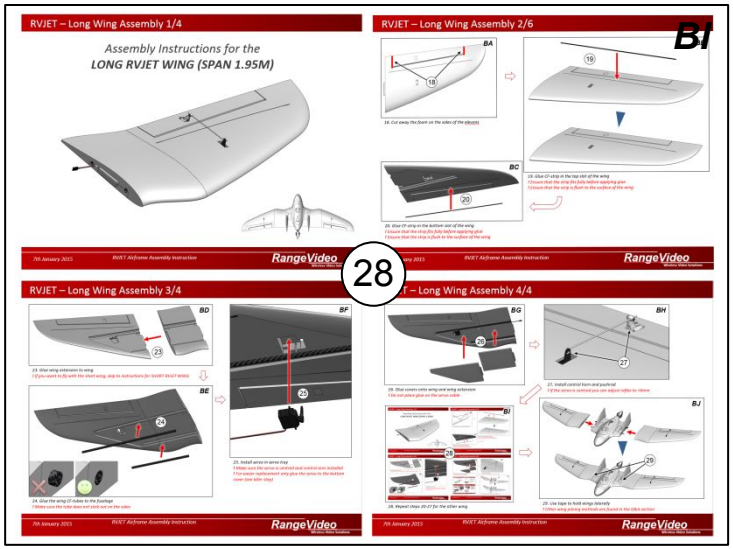
RVJET – Long Wing Assembly 4/4



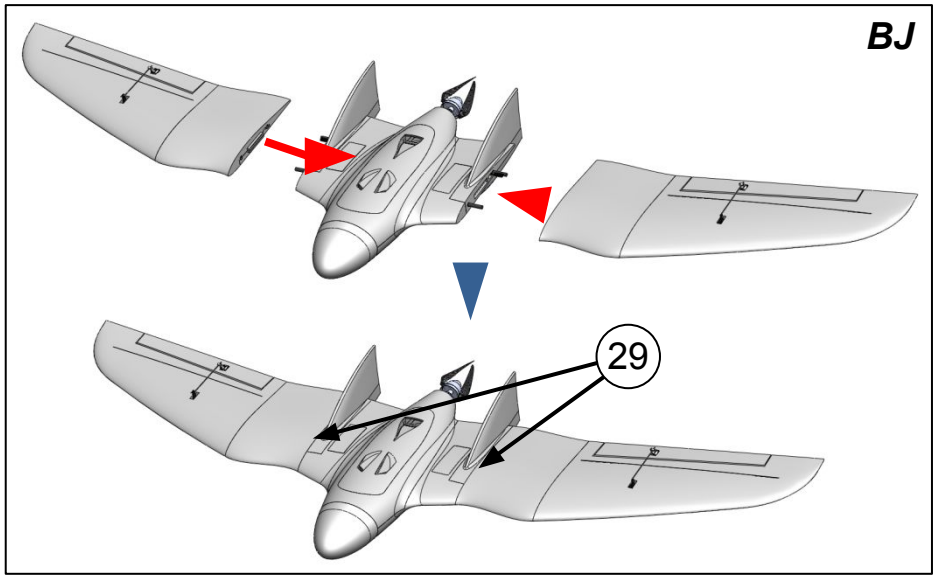
26. Glue covers onto wing and wing extension
! Do not place glue on the servo cable



27. Install control horn and pushrod
! If the servo is centred you can adjust reflex (ref: Setup)



28. Repeat steps 20-27 for the other wing

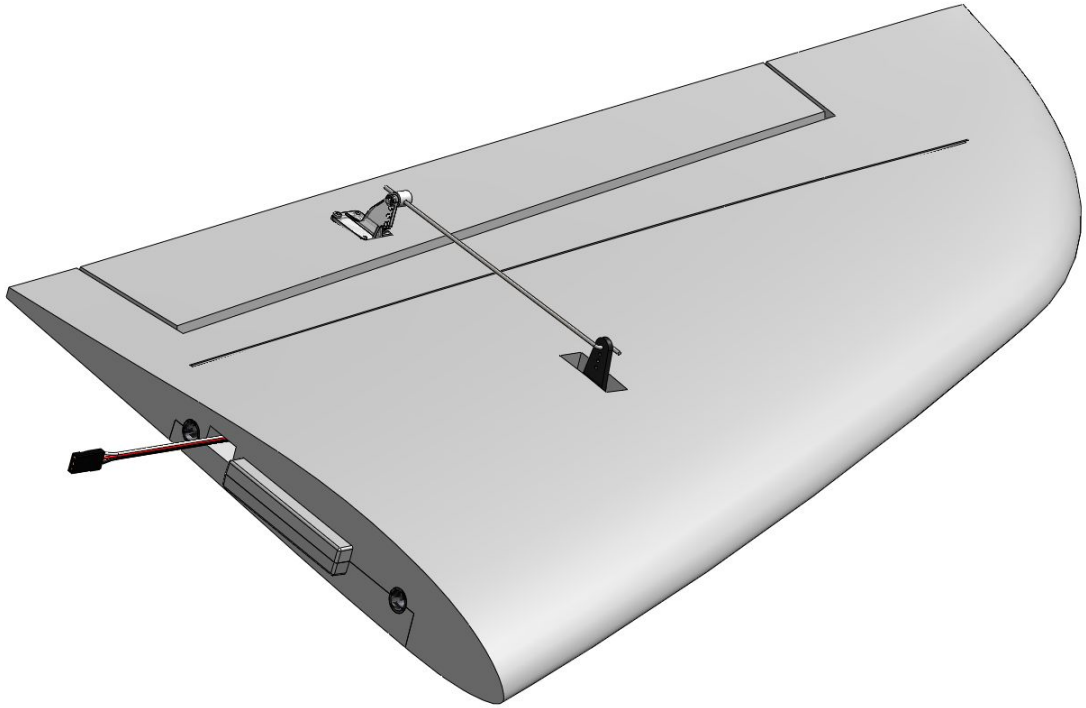


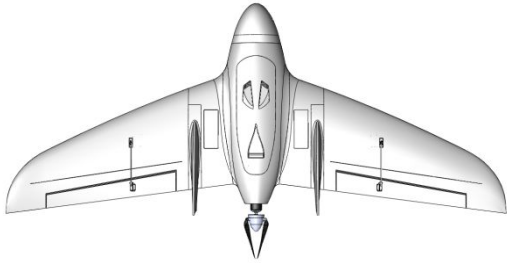
29. Use tape to hold wings laterally
! Other wing joining methods are found in the Q&A

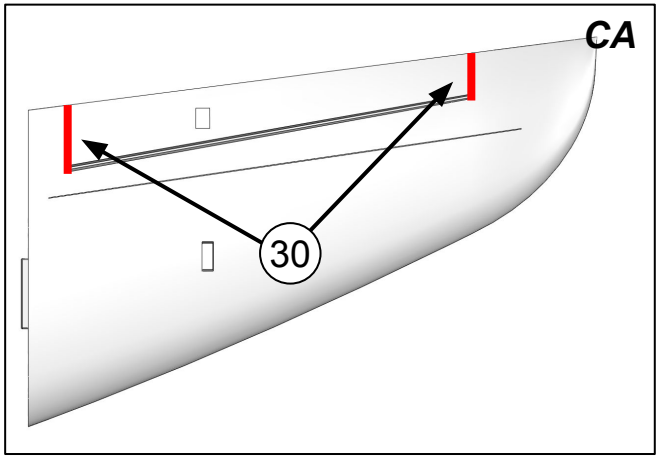
Assembly Instructions for the

SHORT RVJET WING (SPAN 1.55M)

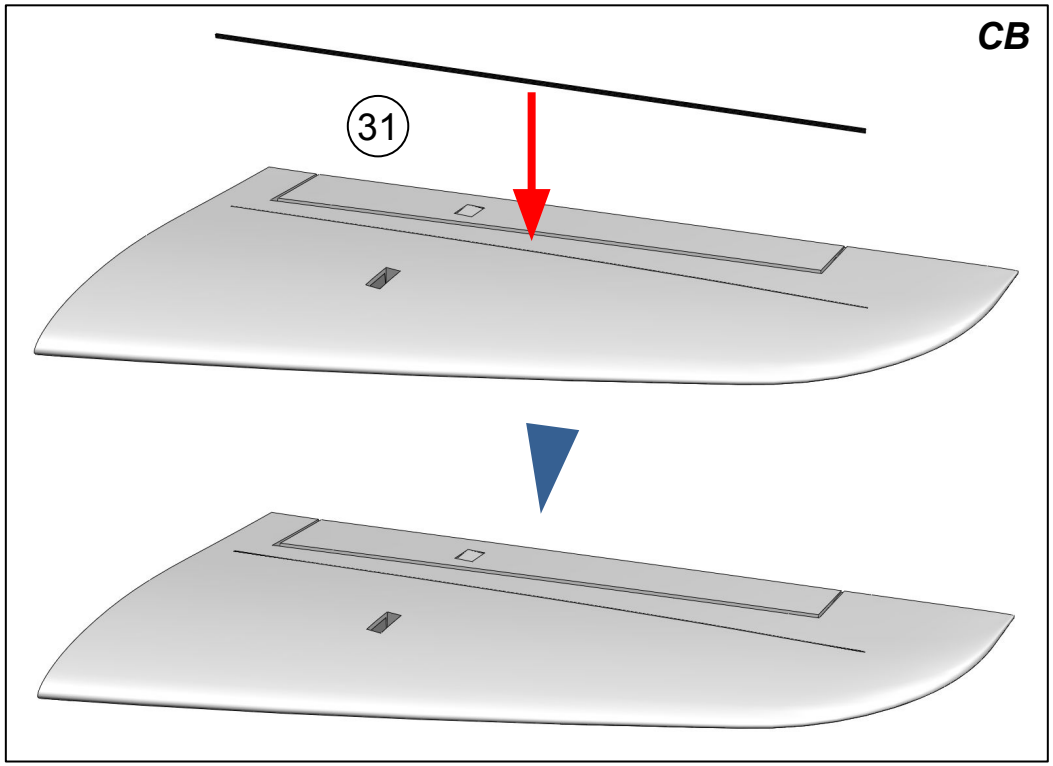
(NOTE: THIS REQUIRES SOME MODIFICATIONS OF THE STANDARD KIT)







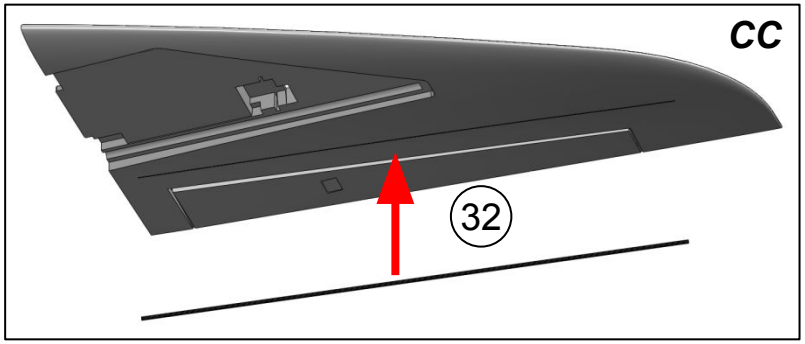
30. Remove the foam on the sides of the elevons



31. Glue CF-strip in the top slot of the wing

! Ensure that the strip fits fully before applying glue

! Ensure that the strip is flush to the surface of the wing

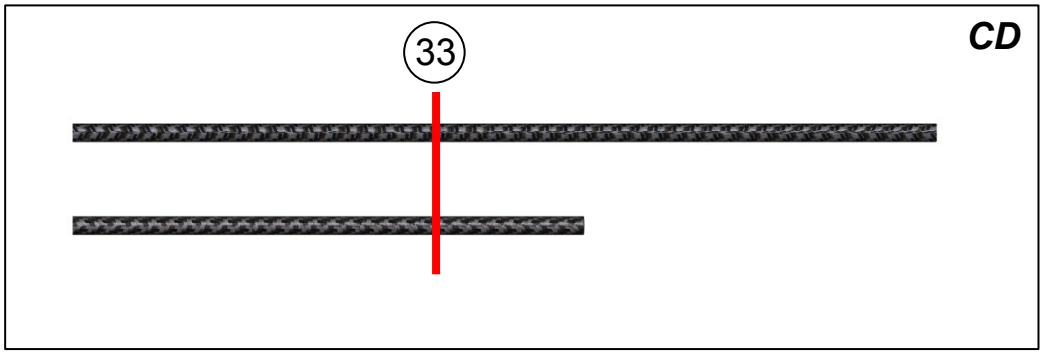


32. Glue CF-strip in the bottom slot of the wing

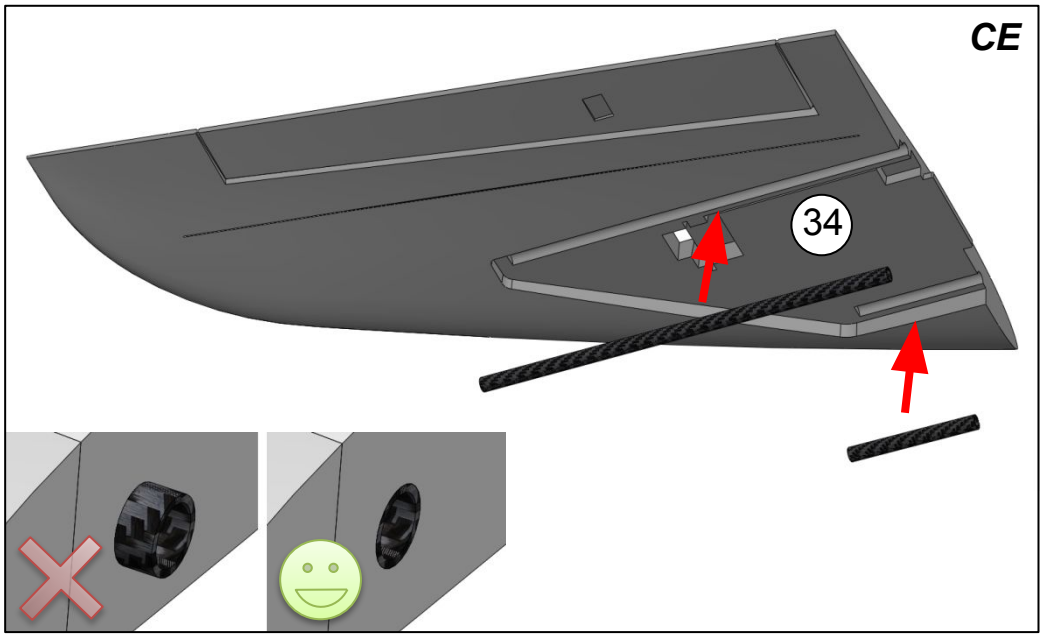
! Ensure that the strip fits fully before applying glue

! Ensure that the strip is flush to the surface of the wing

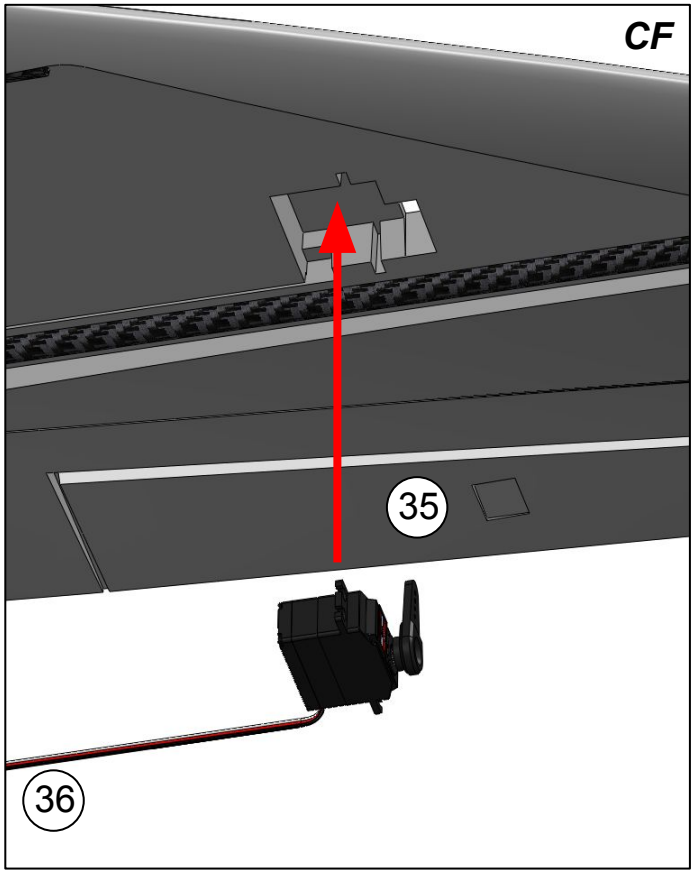
RVJET – Short Wing Assembly 3/5



33. Cut the wing CF tubes, trim to fit the wing (approx 86mm and 286mm)
! Take care not to crack the tubes when cutting
! Adding glue to the newly cut edges can reduce the risk of cracking

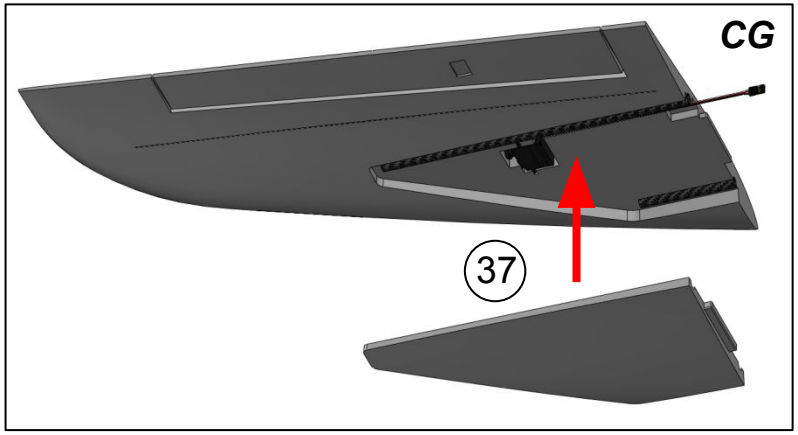


34. Glue the wing CF-tubes to the fuselage
! Make sure the tube does not stick out on the sides



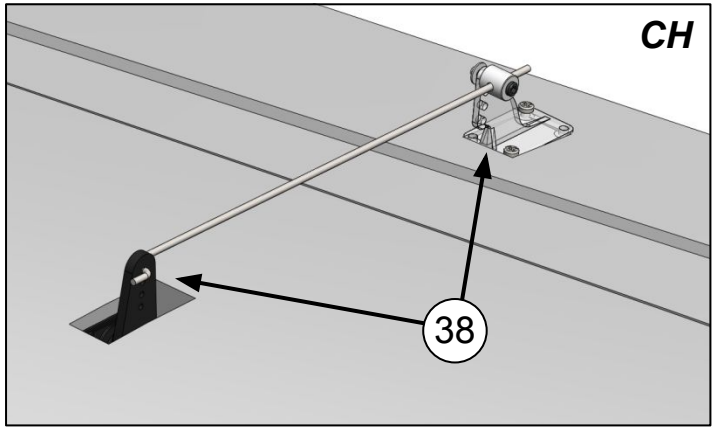
35. Install servo in servo tray
! Make sure the servo is centred and the control arm installed
! For easier replacement only glue the servo to the bottom cover (see step 37)

36. Cut or stow away excess servo cable
! Trim cable so that the connector stick out 3-4cm from the wing



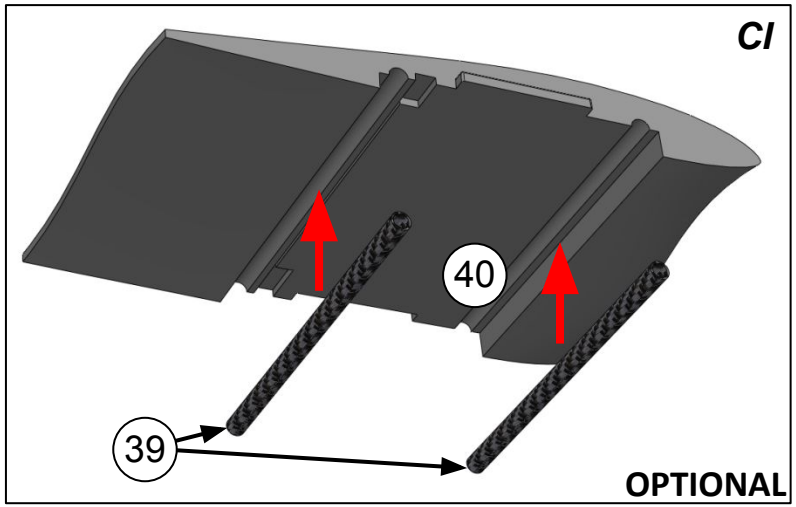
37. Glue covers onto wing and wing extension

! Do not place glue on the servo cable



38. Install control horn and pushrod

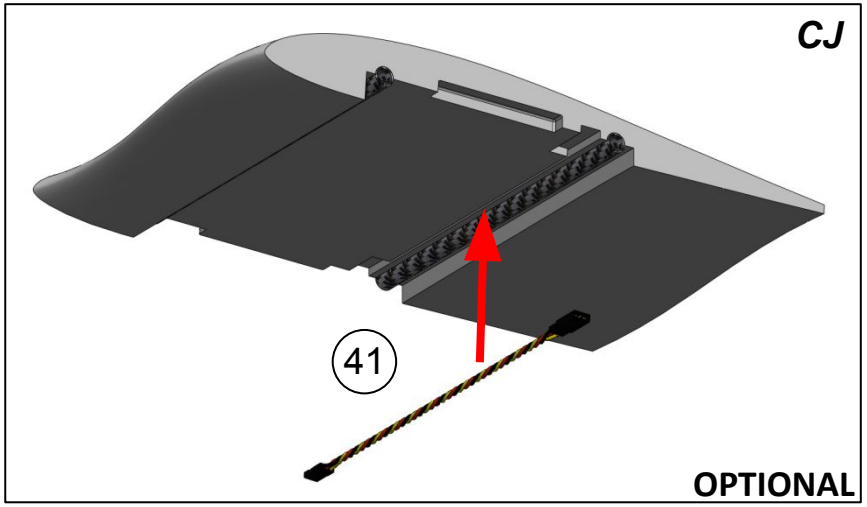
! If the servo is centred you can adjust reflex (ref: Setup)



39. Trim the remaining wing CF tube parts (approximately 198mm)

40. Glue the CF-tubes to the wing extension

! Make sure the tube does not stick out on the sides

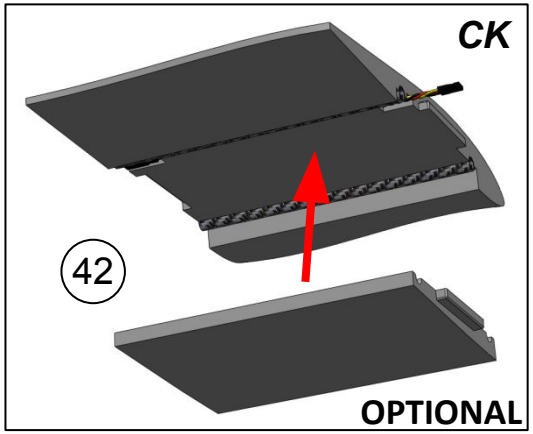


41. Install extra servo cable (230-240mm)

! This cable is not included in the kit

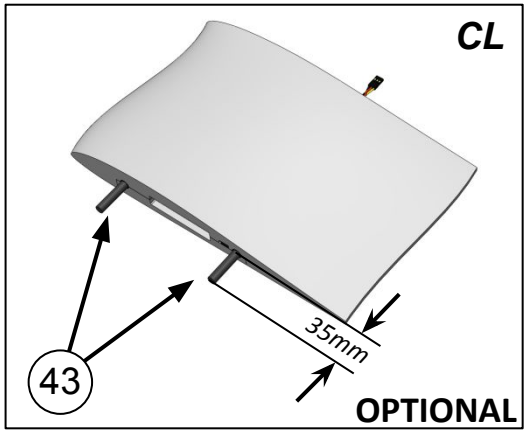
! An alternative solution is to make a wide channel for the original servo

RVJET – Short Wing Assembly 5/5



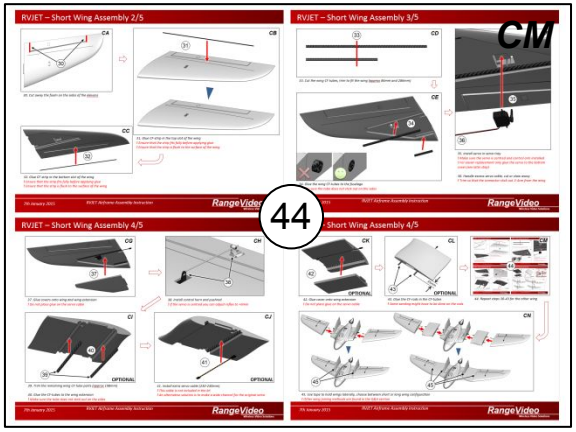
42. Glue cover onto wing extension

! Do not place glue on the servo cable

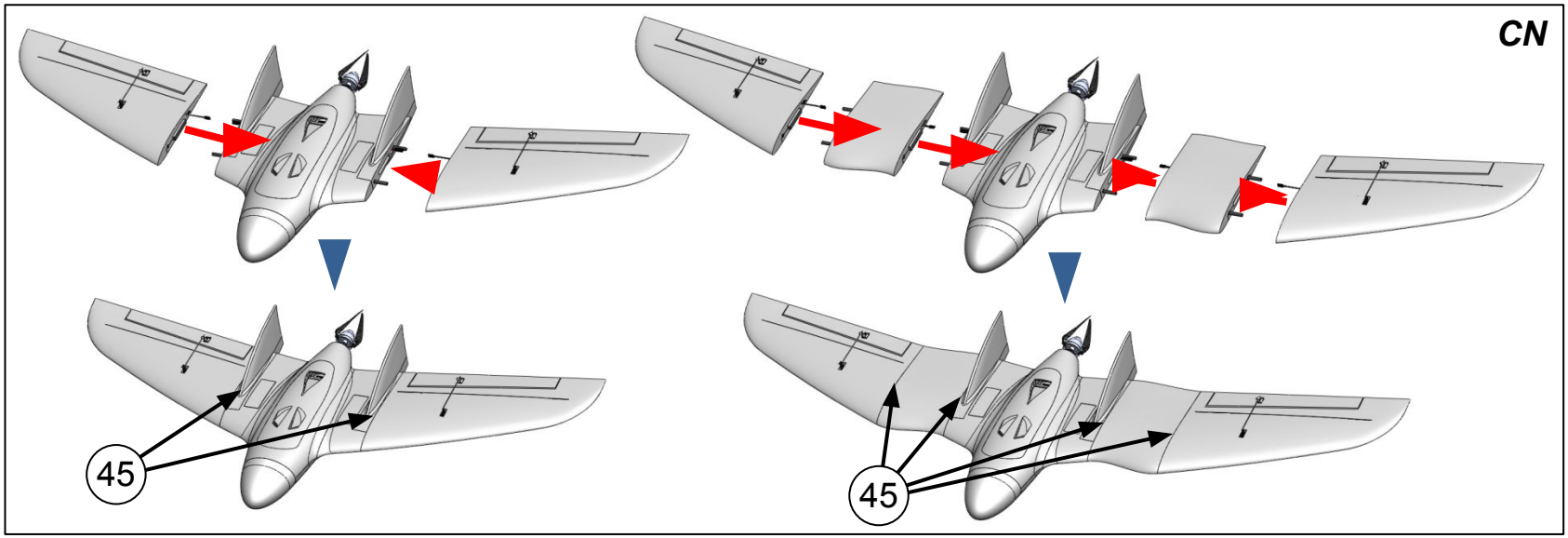


43. Glue the CF-rods in the CF-tubes

! Some sanding might be required on the rods



44. Repeat steps 30-43 for the other wing



45. Use tape to hold wings laterally, choose between short or long wing configuration

! Other wing joining methods are found in the Q&A

RVJET – Gimbal Configuration Overview

GoPro Pan&Tilt

- *Primary axis: Pan*
- *Secondary axis: Tilt*
- *GoPro Hero 1, 2 & 3*
- *Anti-reflection screen*
- *Lens protection*
- *Access to:*
  - *Buttons*
  - *SD card*
  - *USB port*
  - *A/V outputs*
  - *Rear connector*

Mico Camera Pan&Tilt

- *Primary axis: Pan*
- *Secondary axis: Tilt*
- *Fits most common micro cameras (KX191, KX171, KX6, DX201, etc.)*
- *Clamp fixing around 14mm lens*
- *Screw fixing possible*
- *Anti-reflection screen*
- *170 degree pan and tilt angle*

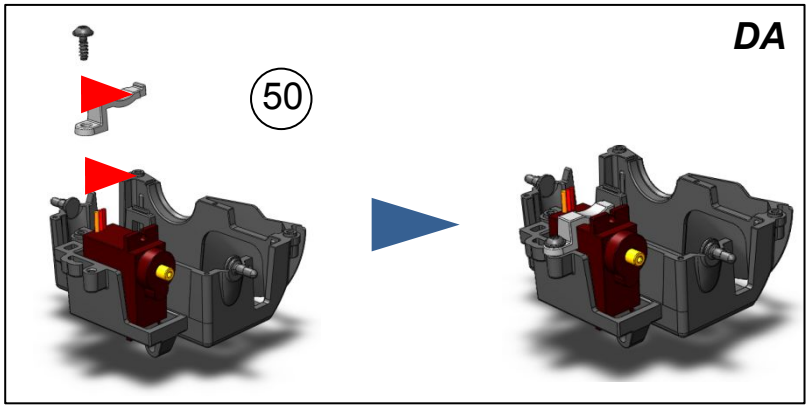
Micro Camera Tilt&Pan

- *Primary axis: Tilt*
- *Secondary axis: Pan*
- *Fits most common micro cameras (KX191, KX171, KX6, DX201, etc.)*
- *Clamp fixing around 14mm lens*
- *Screw fixing possible*
- *Anti-reflection screen*
- *170 degree tilt and pan angle*

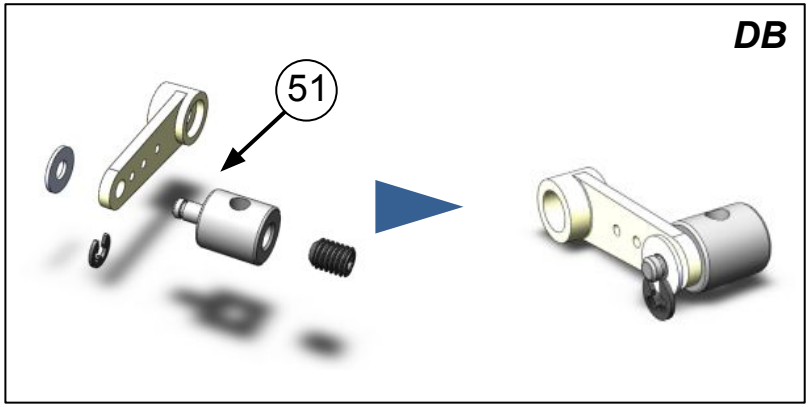
Assembly Instructions for the RangeVideo

GoPro Pan&Tilt Module

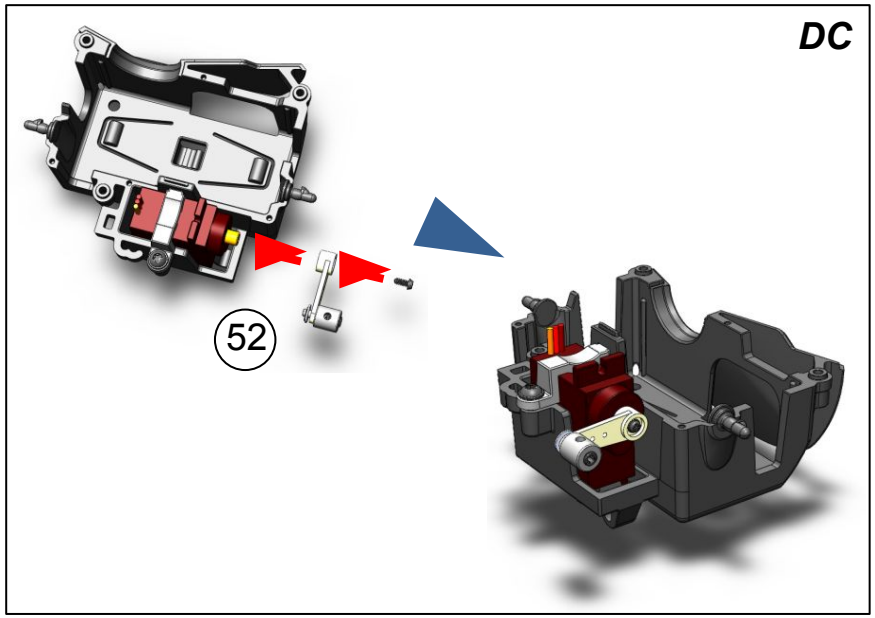
RVJET – Gimbal GoPro Pan&Tilt Assembly 2/7



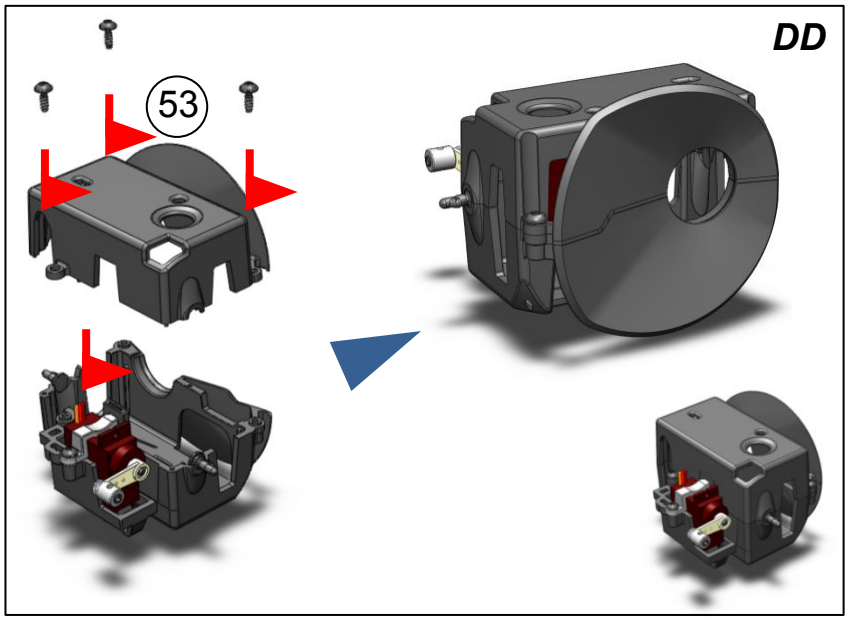
50. Mount servo and secure with clip and screw
! Do not over-tighten



51. Assemble link stopper on servo horn and secure with circlip
! Pre-assemblesd

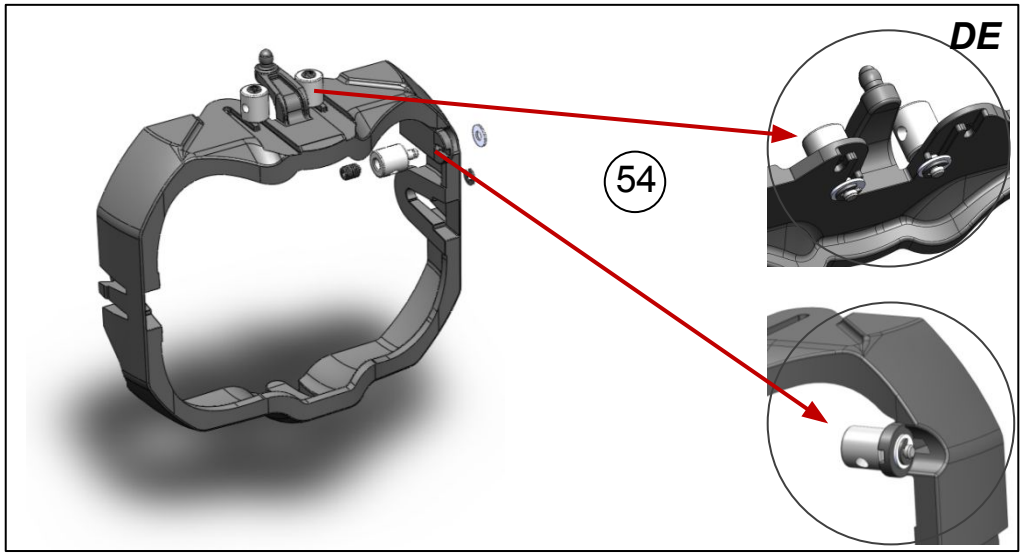


52. Press the horn on the servo and secure with the screw



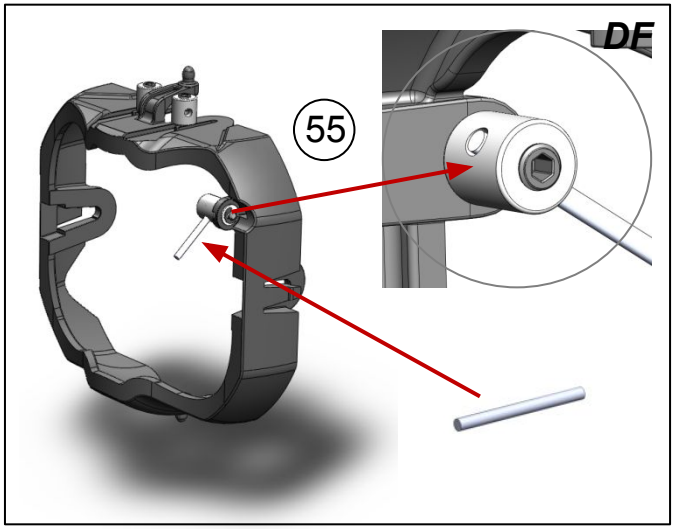
53. Assemble cover and secure with 3 screws
! Do not over-tighten
! In order to avoid scratches, do not insert GoPro yet

RVJET – Gimbal GoPro Pan&Tilt Assembly 3/7



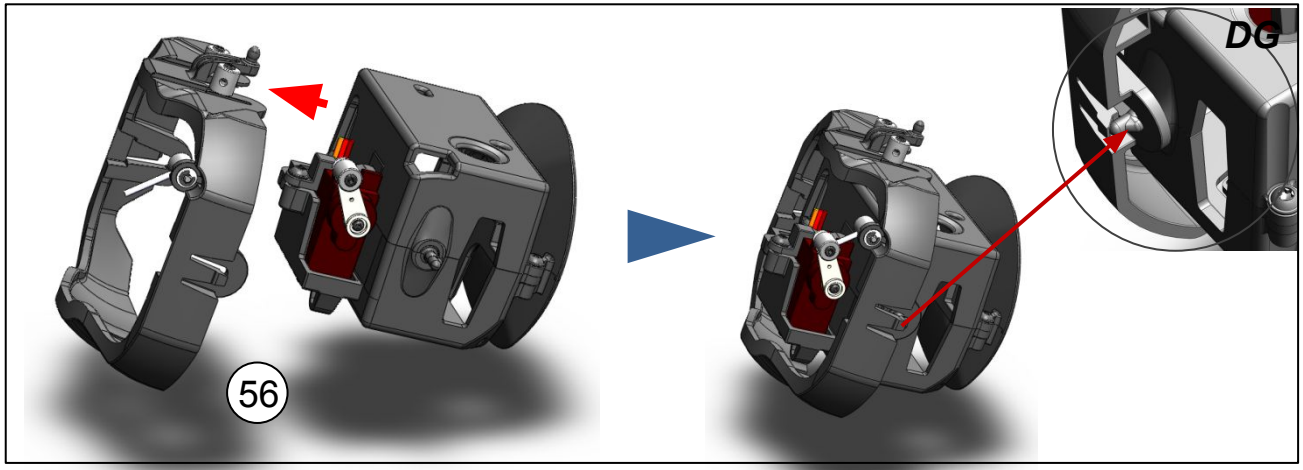
54. Assemble 3 link stoppers to gimbal ring and secure with circlip according to picture5

! Pre-assembled



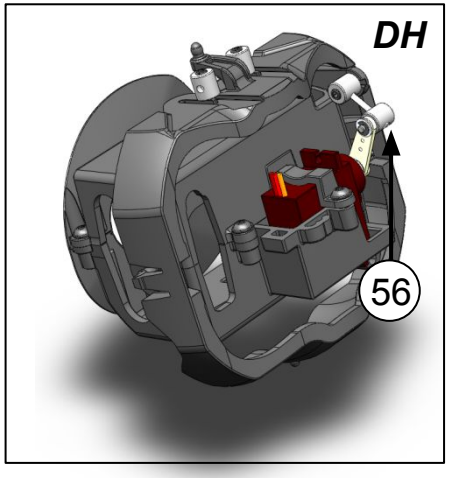
55. Assemble **18**mm push rod

! Install flush with link stopper body



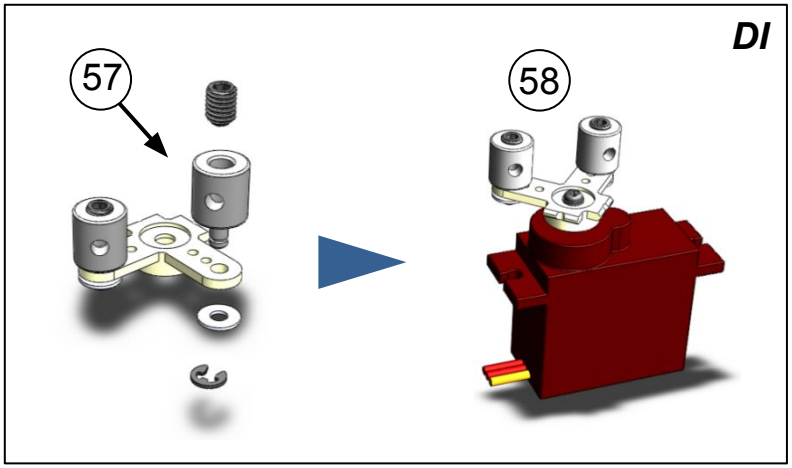
56. Snap GoPro holder into ring

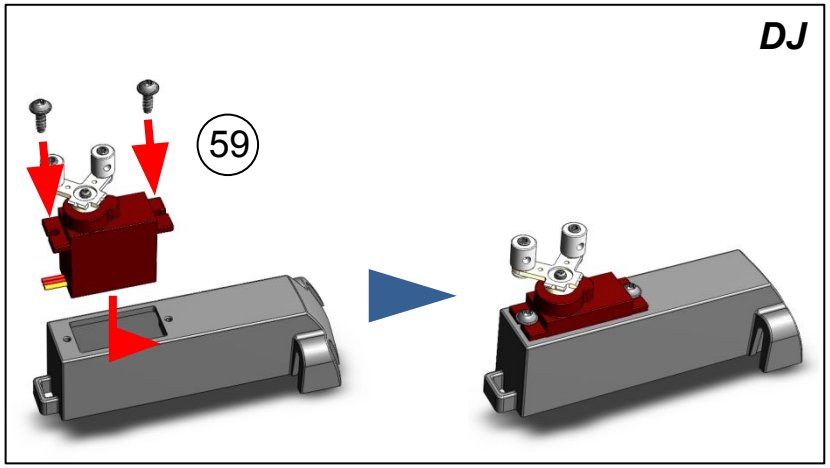
! Make sure not to over-stress the snap features, once into place it's very difficult to disassemble



57. Connect push rod and tighten screws

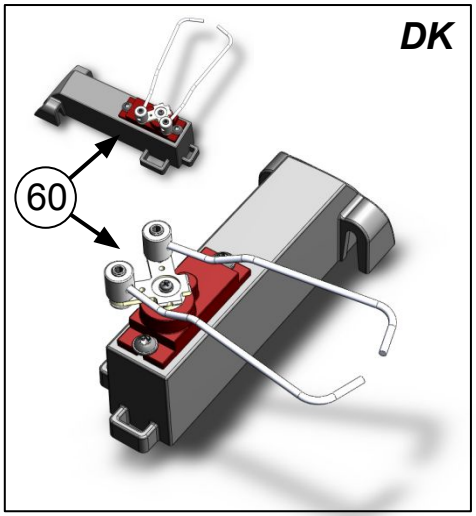
RVJET – Gimbal GoPro Pan&Tilt Assembly 4/7

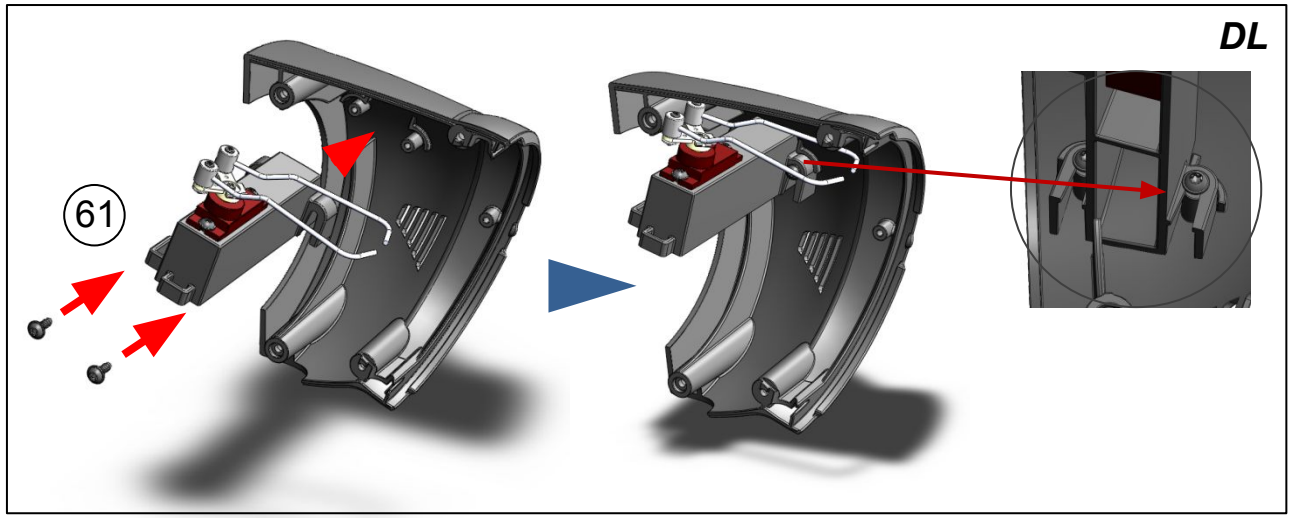




57. Assemble link stoppers to V-shaped servo horn secure with circlips
! Pre-assembled
58. Install servo horn on servo
! Servo must be centred

59. Insert servo into holder and secure with 2 screws
! Be careful with cable

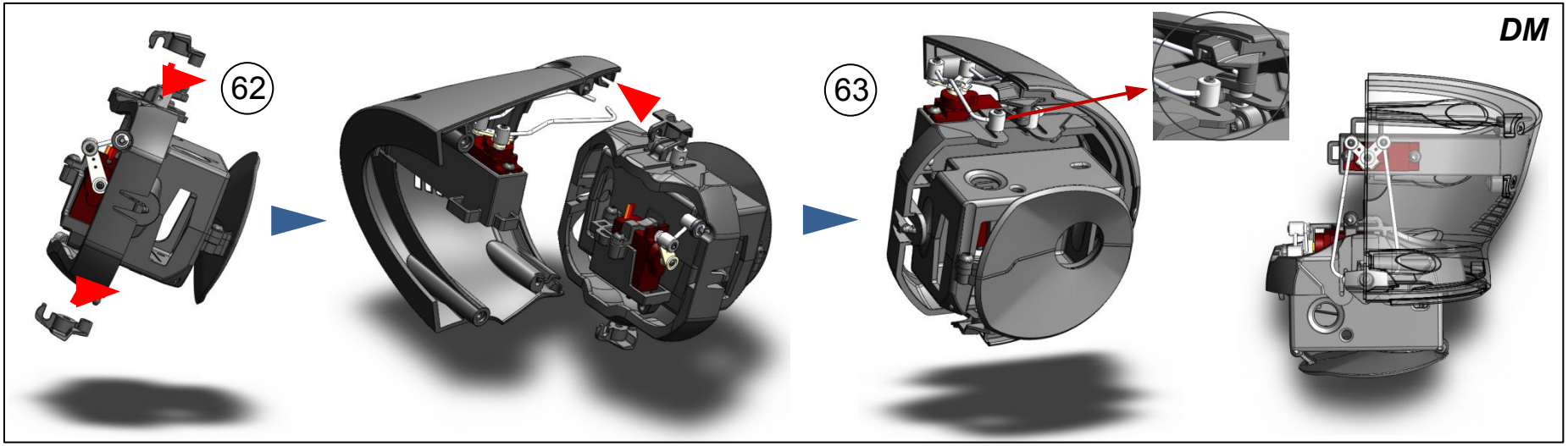




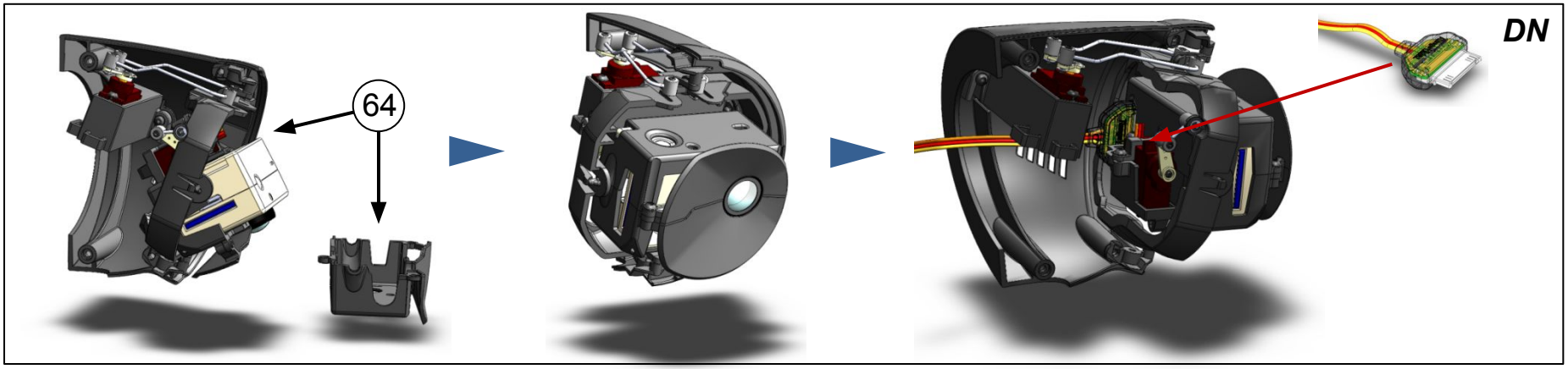
60. Mount push rods according to picture

61. Insert servo assembly into left main housing and secure with 2 screws

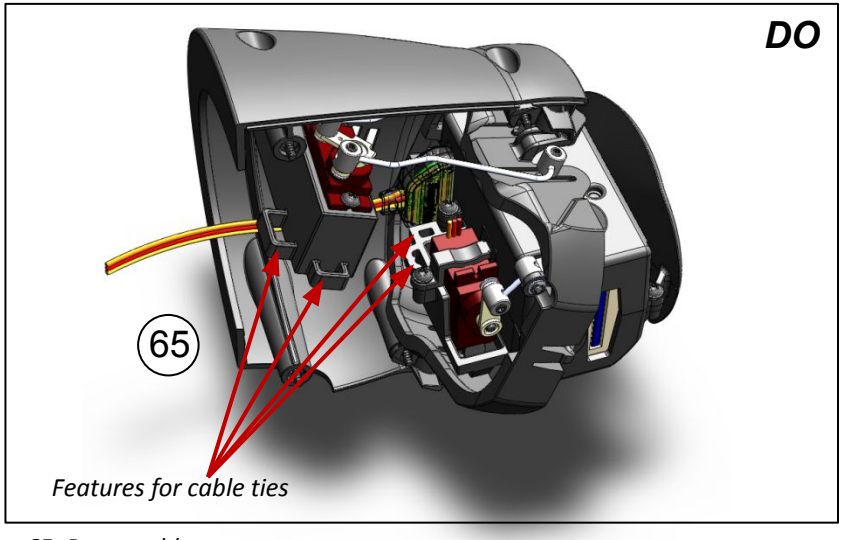
RVJET – Gimbal GoPro Pan&Tilt Assembly 5/7



62. Attach the 2 pivot clips to the gimbal ring and insert into left housing
63. Insert the push rods into the link stoppers and tighten screws
! *Make sure everything turns smoothly*



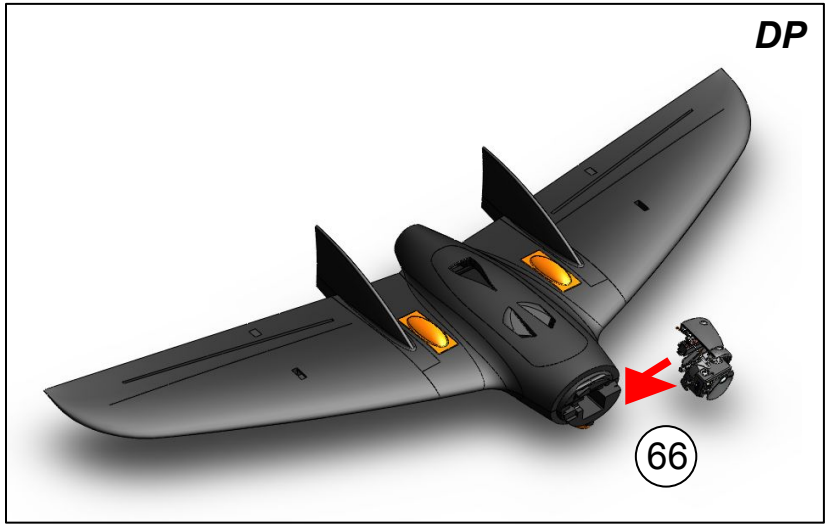
64. Now remove the GoPro cover and insert your GoPro, re-mount cover
! *Insert the (optional) Range Video GoPro connector for live video-out and in-flight charging*



65. Route cables

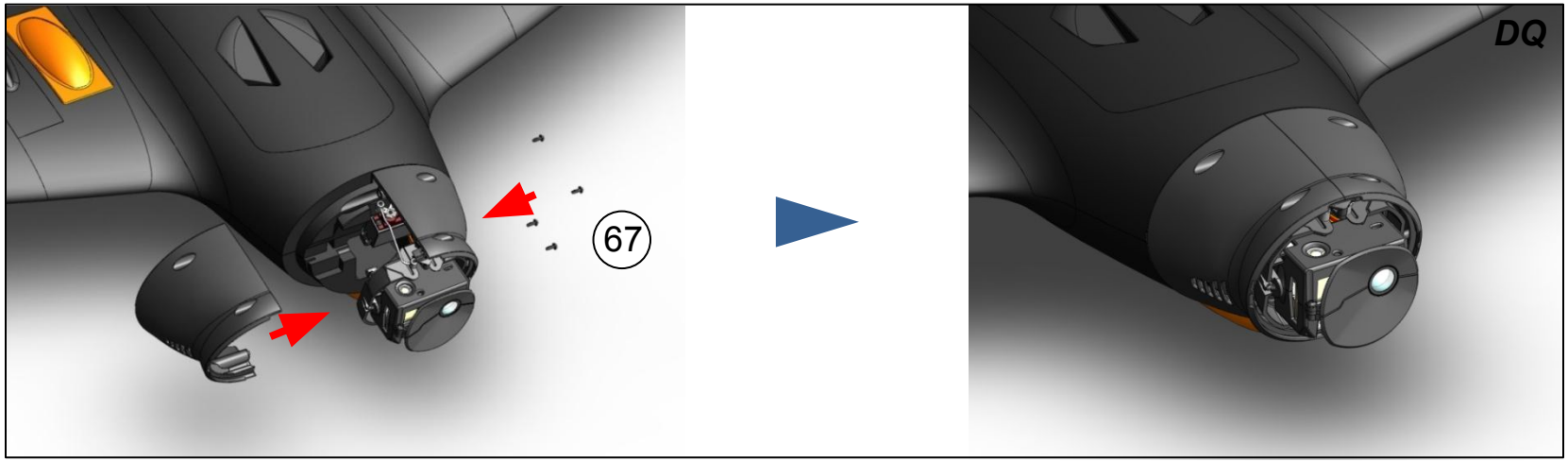
! If needed use cable ties to fix cables

! Make sure you allow enough slack for movement



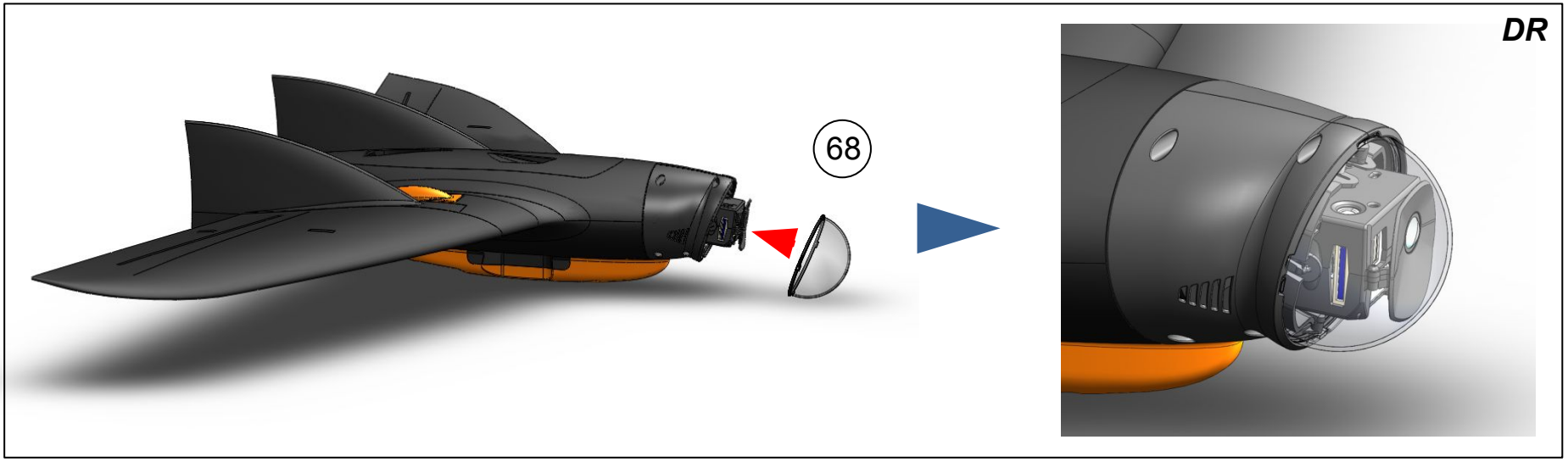
66. Slide the complete assembly carefully onto the fuselage

! If needed use some CA-glue to fix housing to fuselage

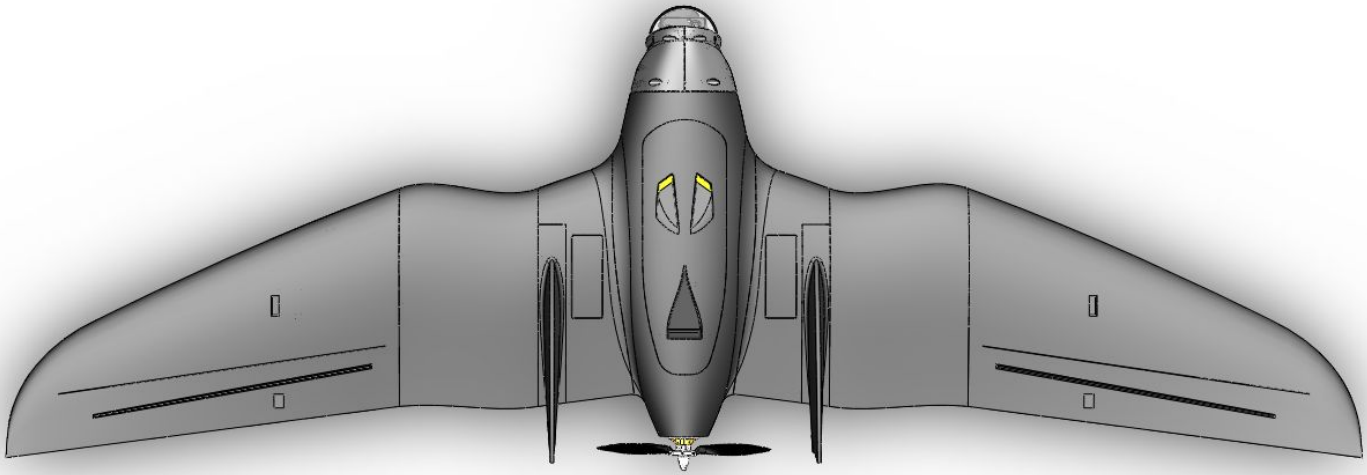


67. Re-check the cables assemble the right housing half. Secure with 4 screws

RVJET – Gimbal GoPro Pan&Tilt Assembly 7/7



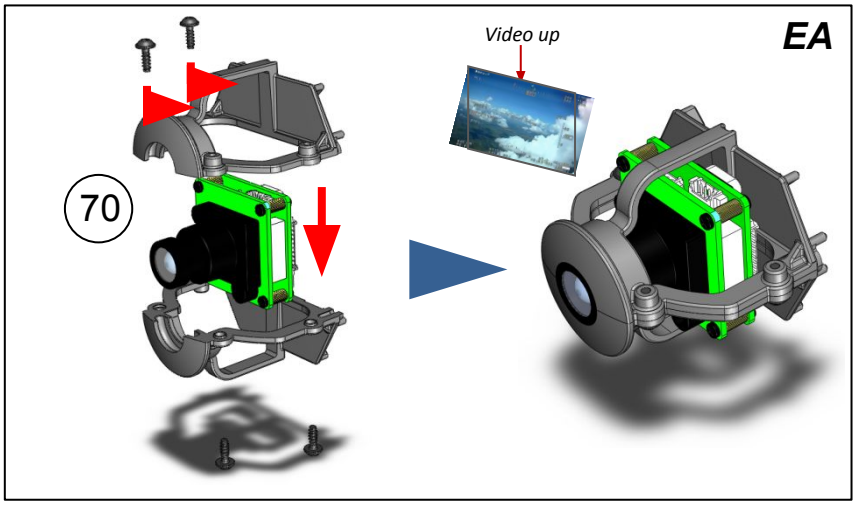
68. Attach the dome and rotate clockwise until it securely snaps into place. Congratulations, you have successfully assembled your RV-GoPro Pan & Tilt!



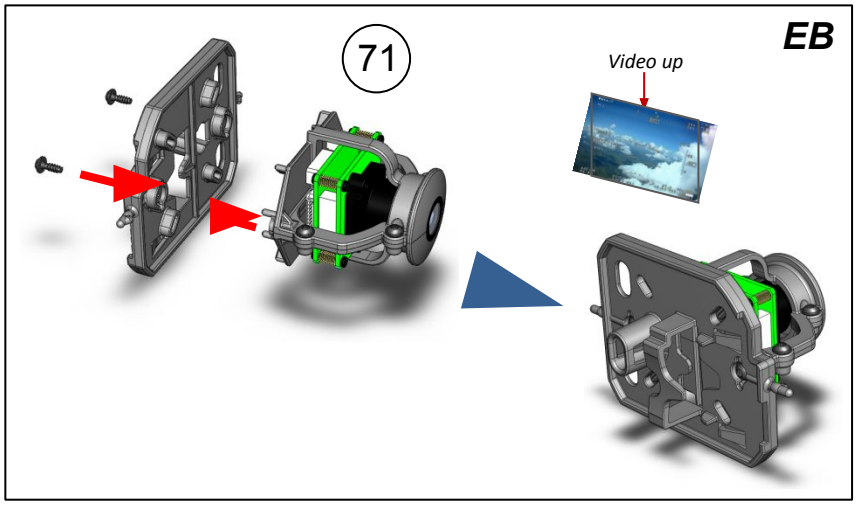
Assembly Instructions for the RangeVideo

MicroCam Pan&Tilt Module

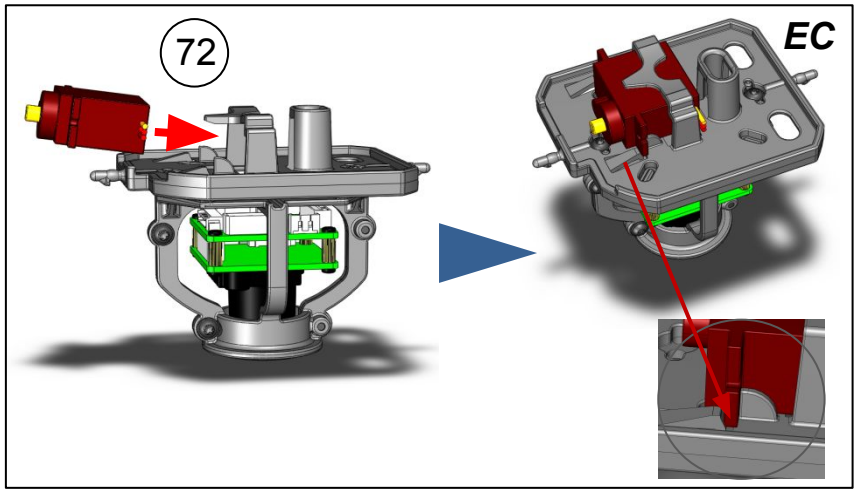
RVJET – Gimbal Micro Camera Pan&Tilt Assembly 2/6



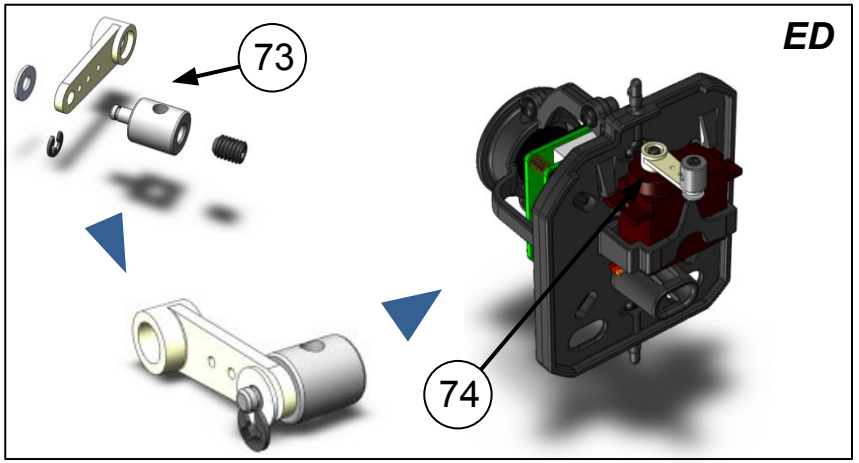
70. Mount your micro camera between the brackets and tighten the 4 screws
! Make sure the video orientation is correct



71. Push assembled camera bracket onto base plate and insert 2 screws
! Make sure the video orientation is correct

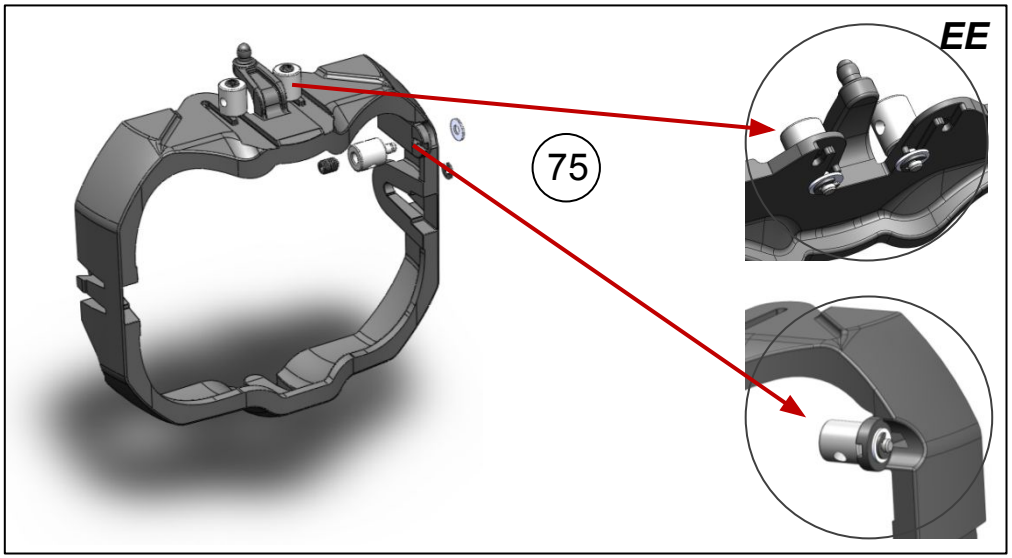


72. Push the servo in place until the 2 snap fits lock into place



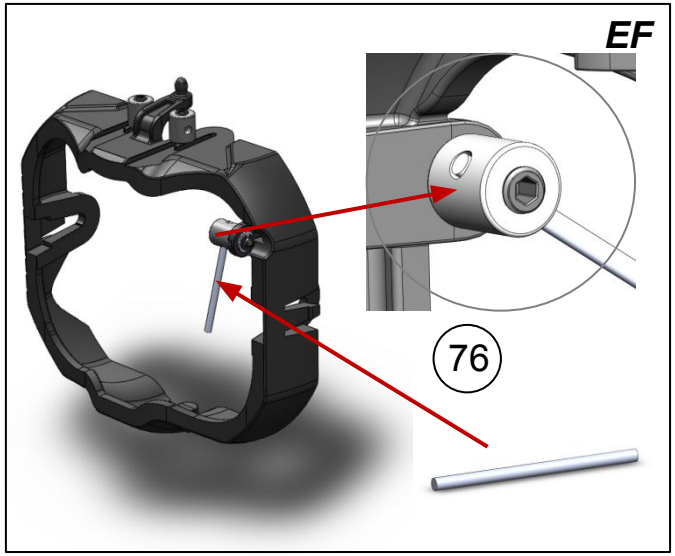
73. Assemble link stopper on servo horn and secure with circlip
! Pre-assembled
74. Push horn on servo an secure with screw as shown
! Servo must be centred

RVJET – Gimbal Micro Camera Pan&Tilt Assembly 3/6



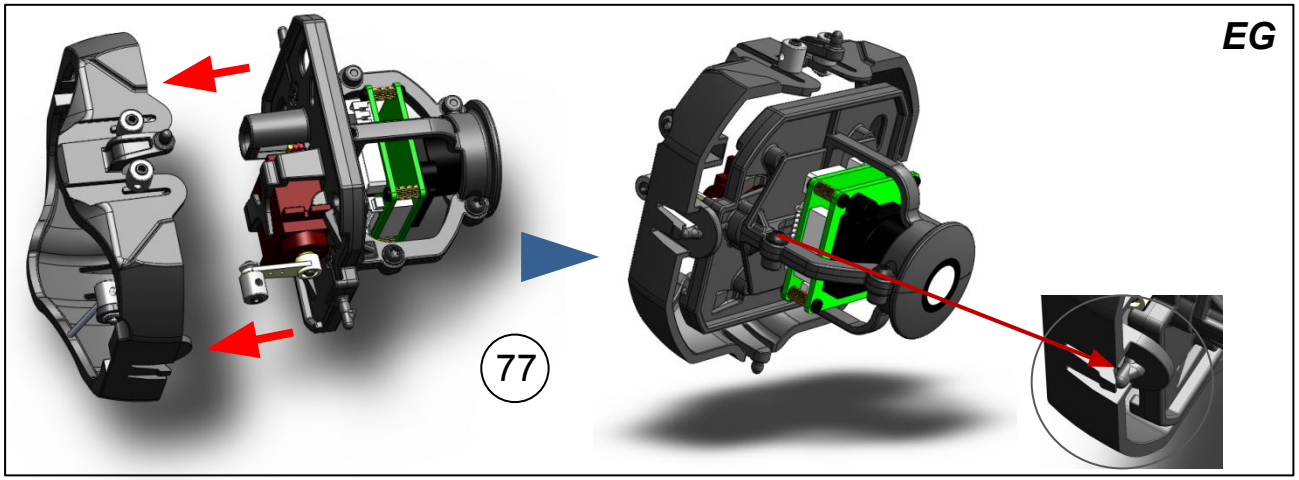
75. Assemble 3 link stoppers to gimbal ring and secure with circlip according to picture

! Pre-assembled



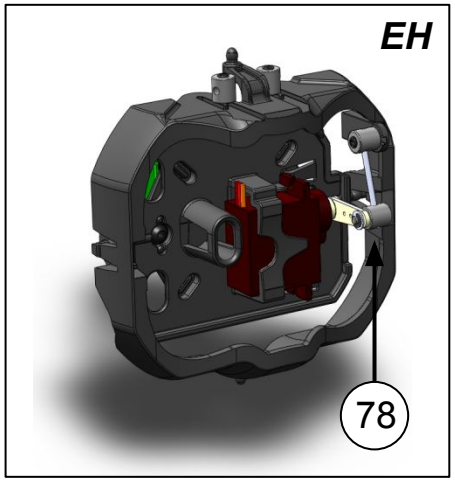
76. Assemble **26**mm push rod

! Install flush with link stopper body



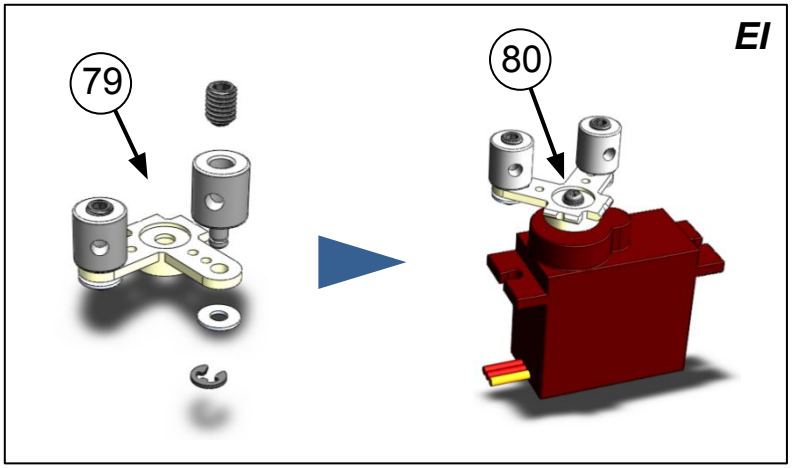
77. Snap camera assembly into ring. Do not to over-stress the snap features

! Make sure not to over-stress the snap features, once into place it's very difficult to disassemble

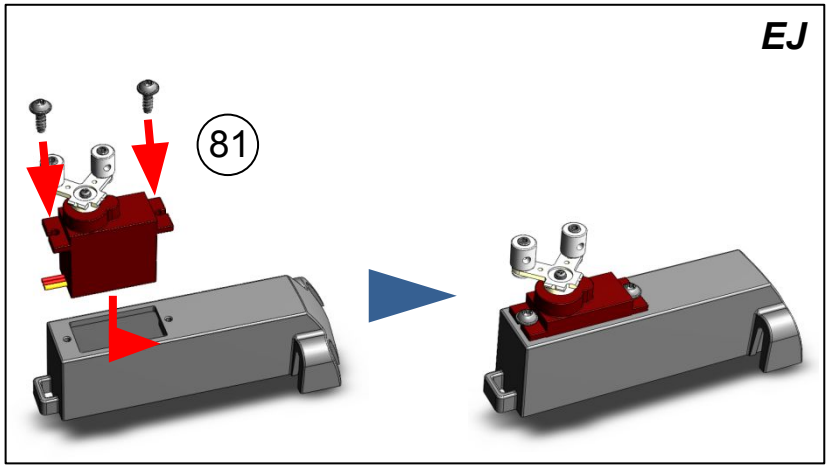


78. Connect push rod and tighten screws

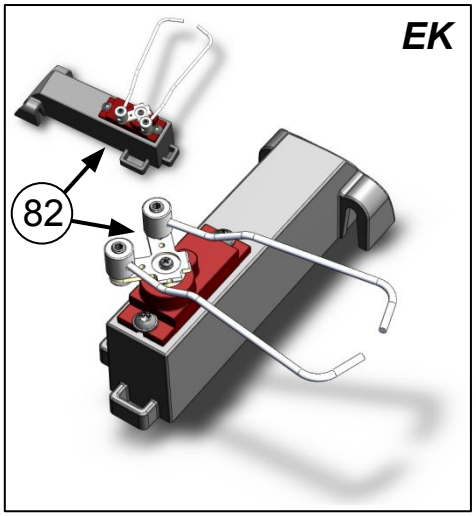
RVJET – Gimbal Micro Camera Pan&Tilt Assembly 4/6



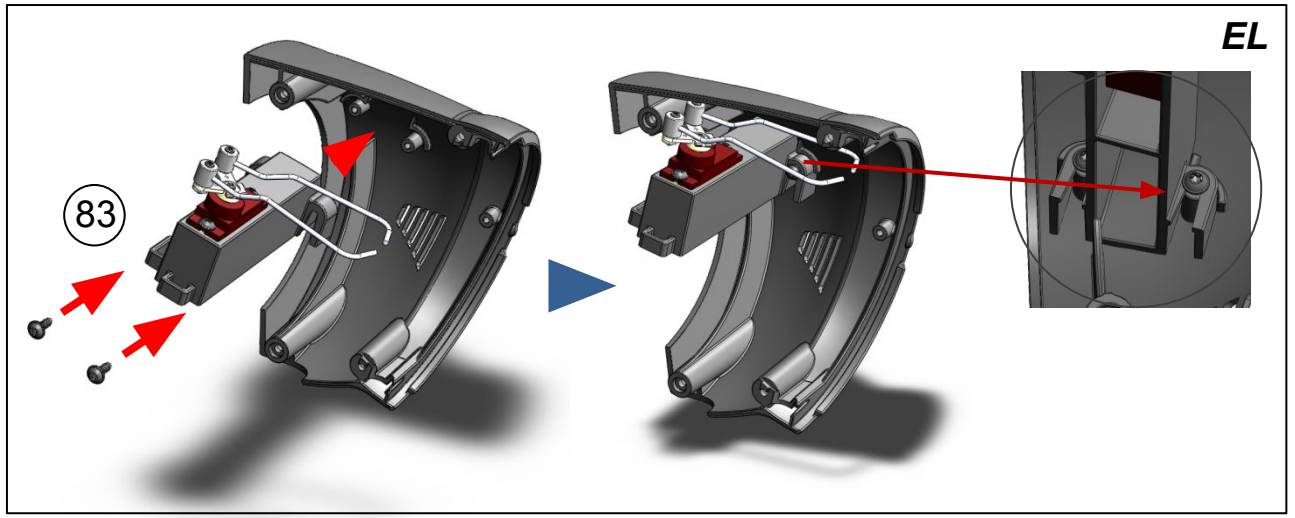
79. Assemble link stoppers to V-shaped servo horn secure with circlips
! Pre-assembled
80. Install servo horn on servo
! Servo must be centred



81. Insert servo into holder and secure with 2 screws
! Be careful with cable

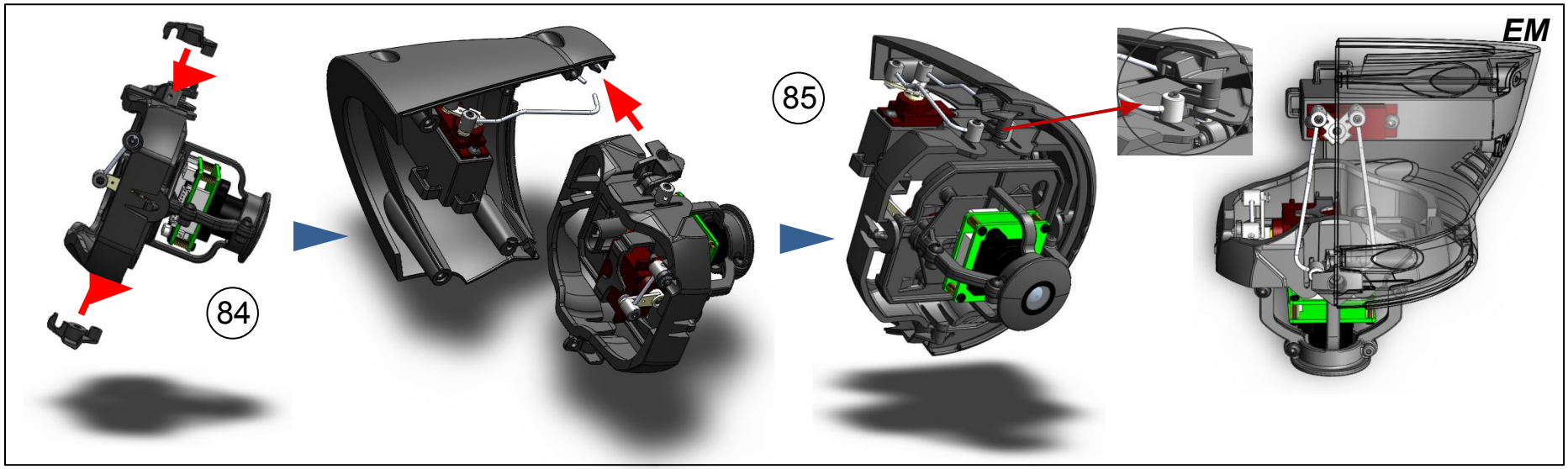


82. Mount push rods according to picture

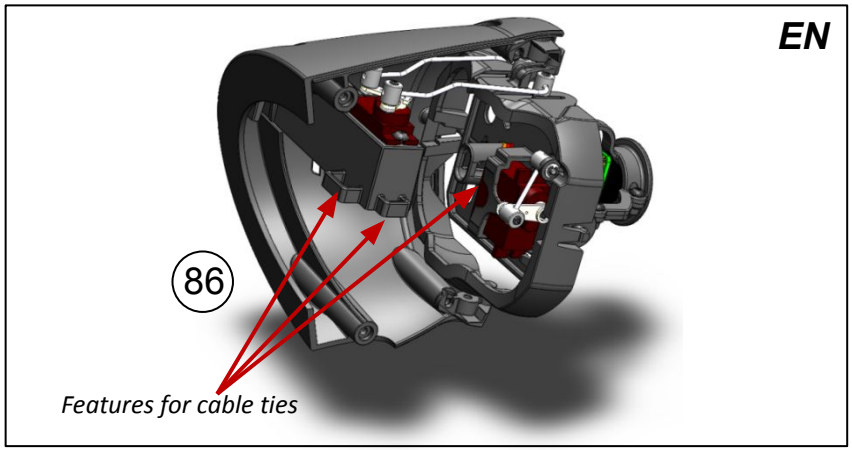


83. Insert servo assembly into left main housing and secure with 2 screws

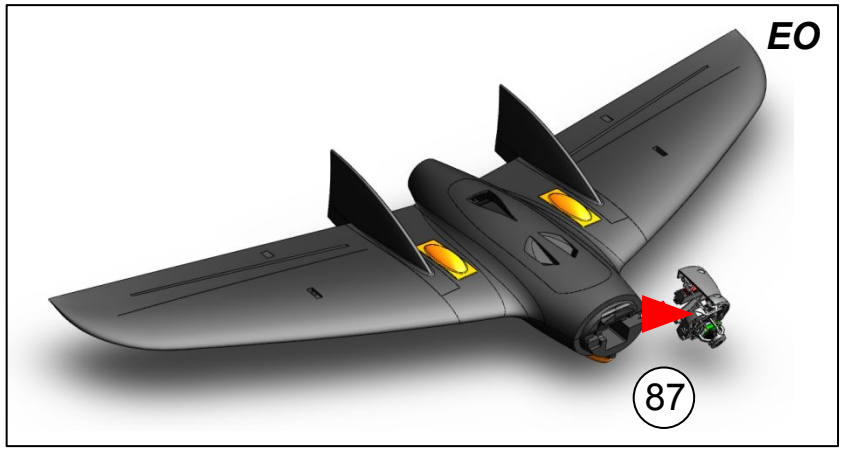
RVJET – Gimbal Micro Camera Pan&Tilt Assembly 5/6



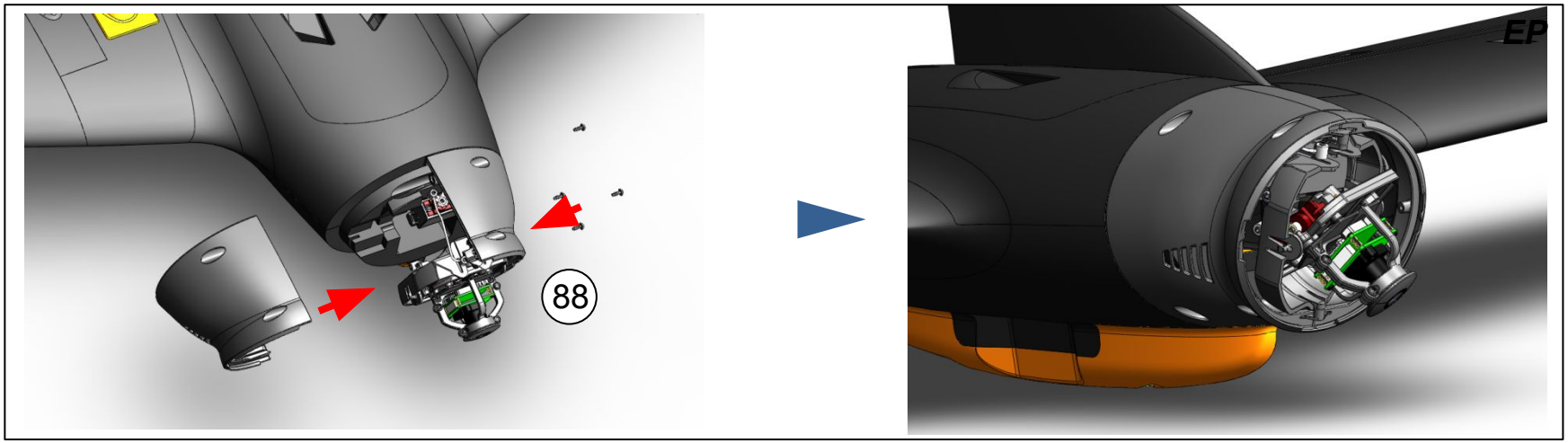
84. Attach the 2 pivot clips to the gimbal ring and insert into left housing
85. Insert the push rods into the link stoppers and tighten screws
! Make sure everything turns smoothly



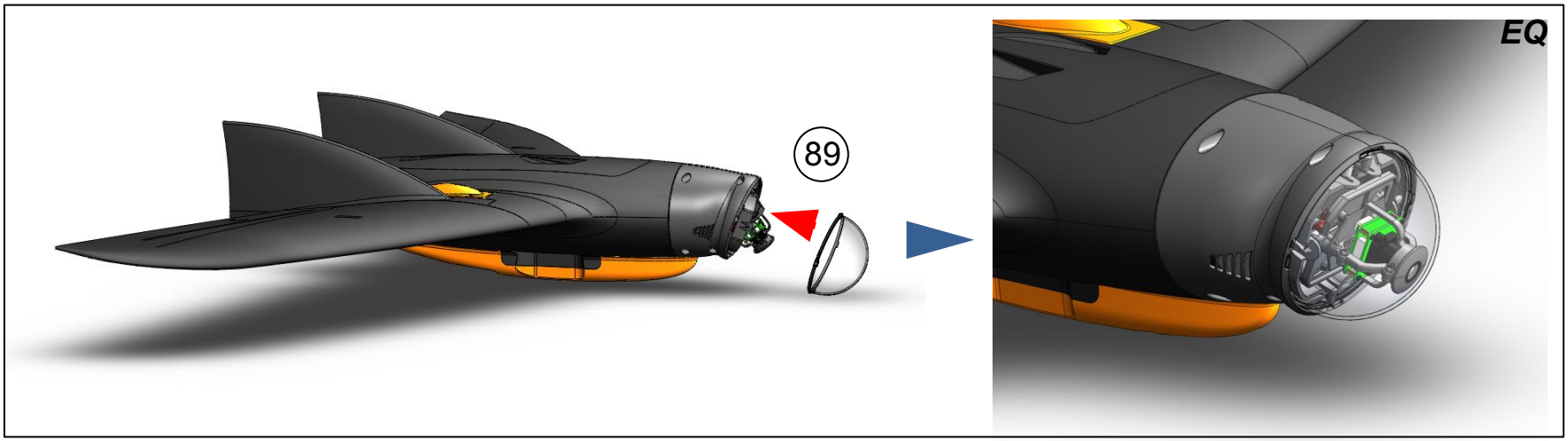
86. Route cables
! If needed use cable ties to fix cables
! Make sure you allow enough slack for movement



87. Slide the complete assembly carefully onto the fuselage
! If needed use some CA-glue to fix housing to fuselage



88. Re-check the cables assemble the right housing half and secure with 4 screws

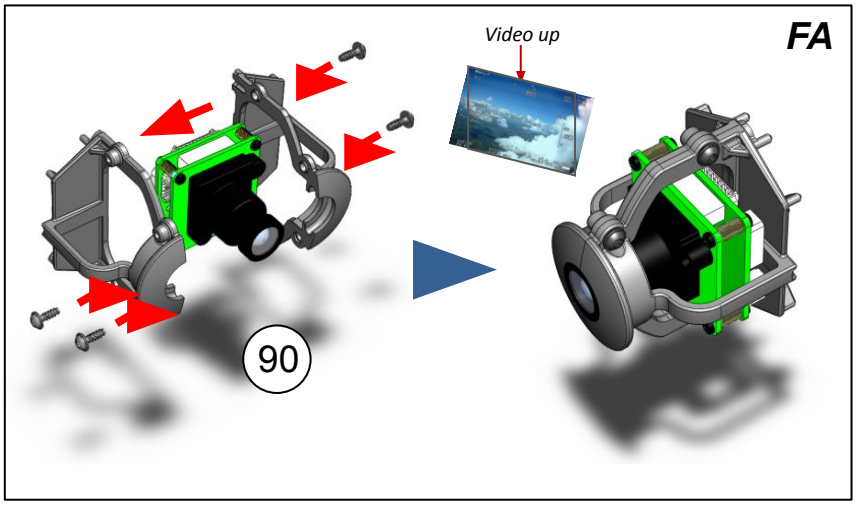


89. Attach the dome and rotate clockwise until it securely snaps into place. Congratulations, you have successfully assembled your RV-MiniCam Pan & Tilt!

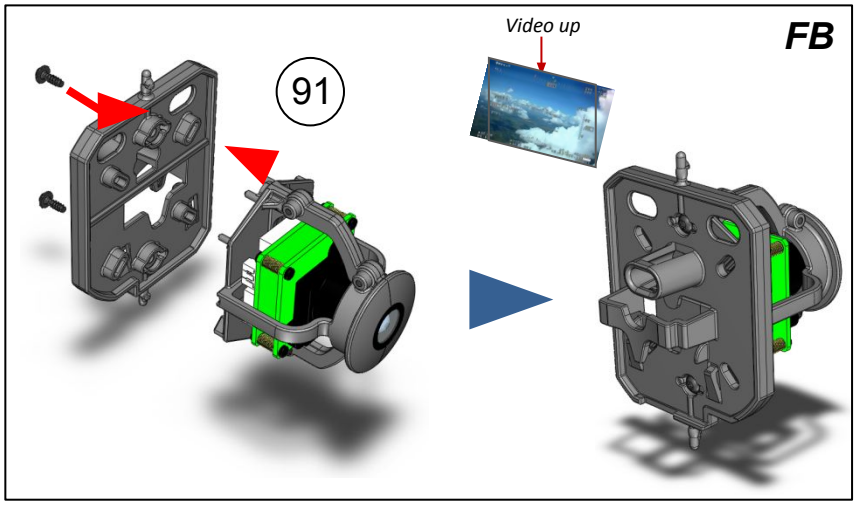
Assembly Instructions for the RangeVideo

MicroCam Tilt&Pan Module

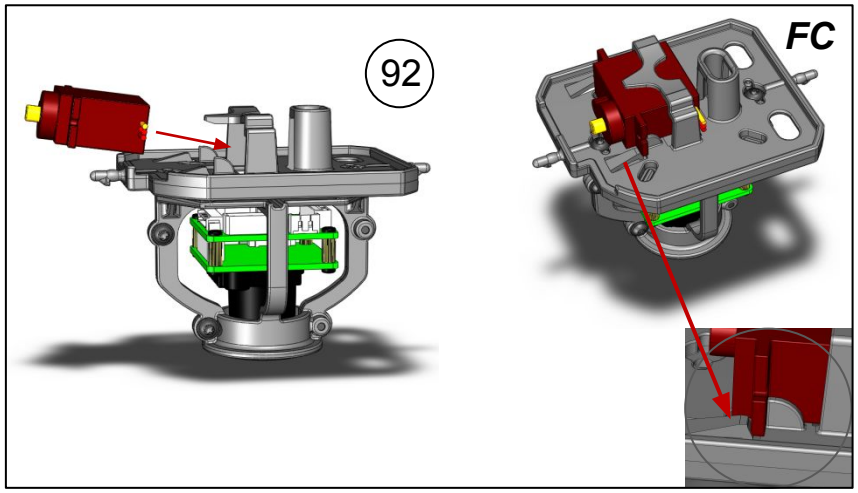
RVJET – Gimbal Micro Camera Tilt&Pan Assembly 2/7



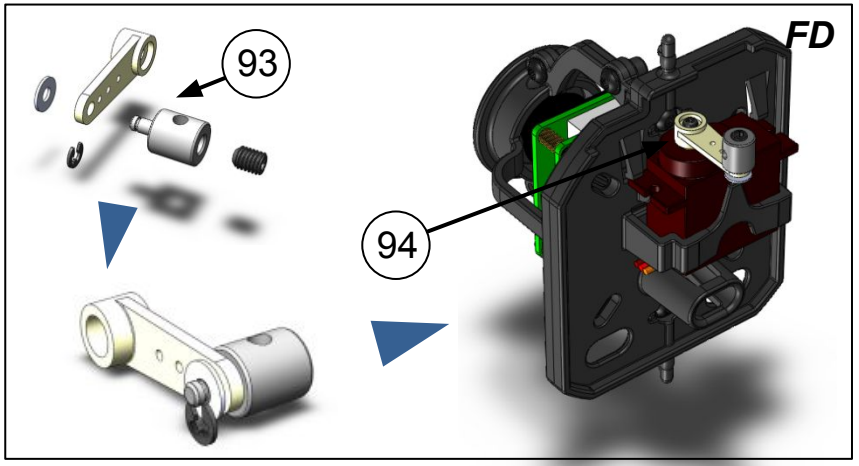
90. Mount your micro camera between the brackets and tighten the 4 screws
! Make sure the video orientation is correct



91. Push assembled camera bracket onto base plate and insert 2 screws
! Make sure the video orientation is correct

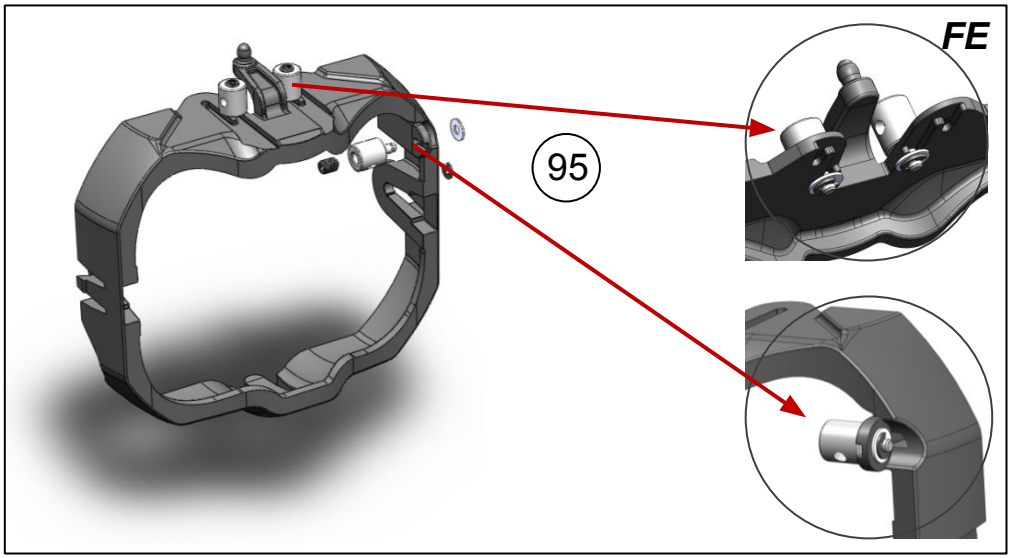


92. Push the servo in place until the 2 snap fits lock into place



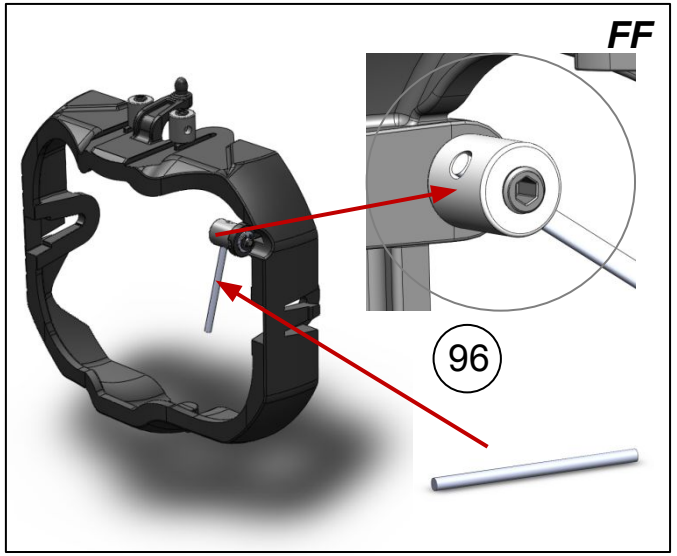
93. Assemble link stopper on servo horn and secure with circlip
! Pre-assembled
94. Push horn on servo an secure with screw as shown
! Servo must be centred

RVJET – Gimbal Micro Camera Tilt&Pan Assembly 3/7



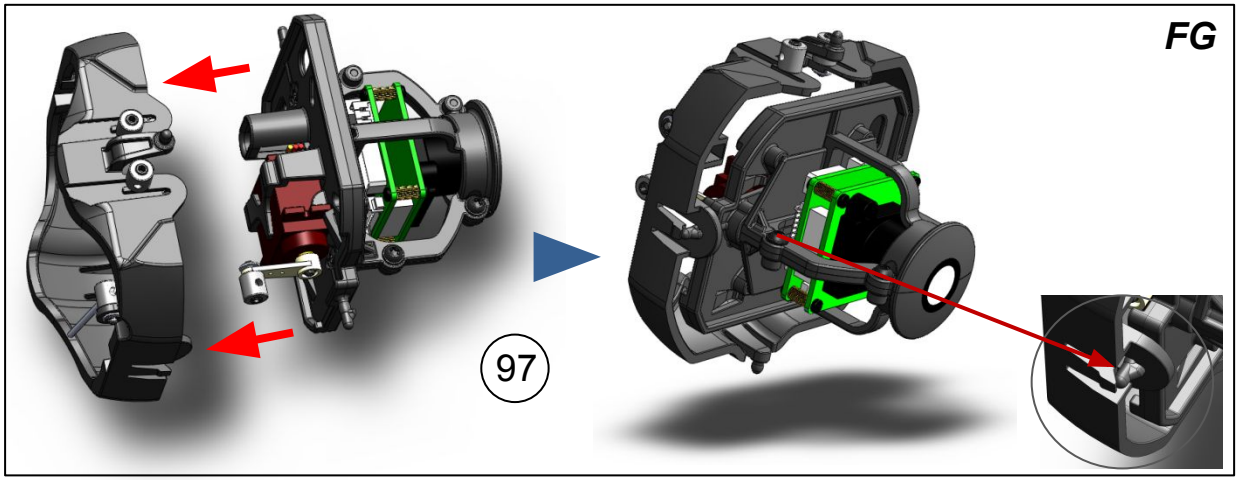
95. Assemble 3 link stoppers to gimbal ring and secure with circlip according to picture

! Pre-assembled



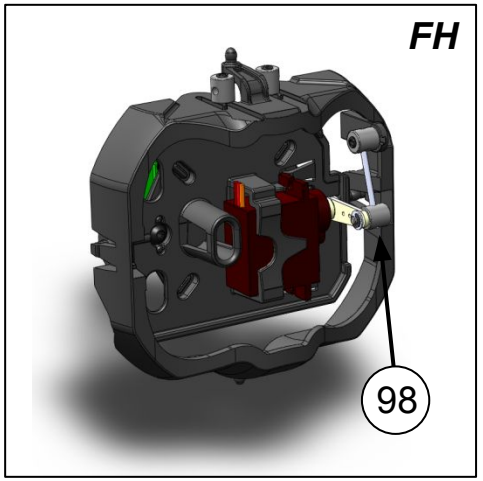
96. Assemble **26**mm push rod

! Install flush with link stopper body

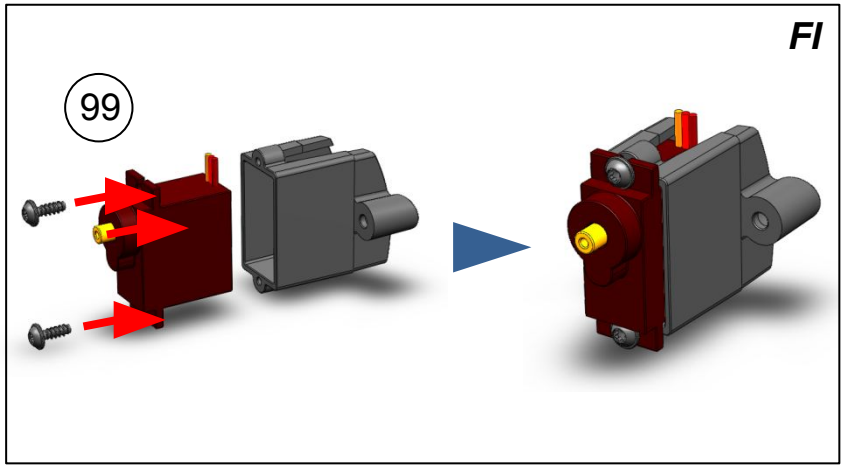


97. Snap camera assembly into ring. Do not to over-stress the snap features

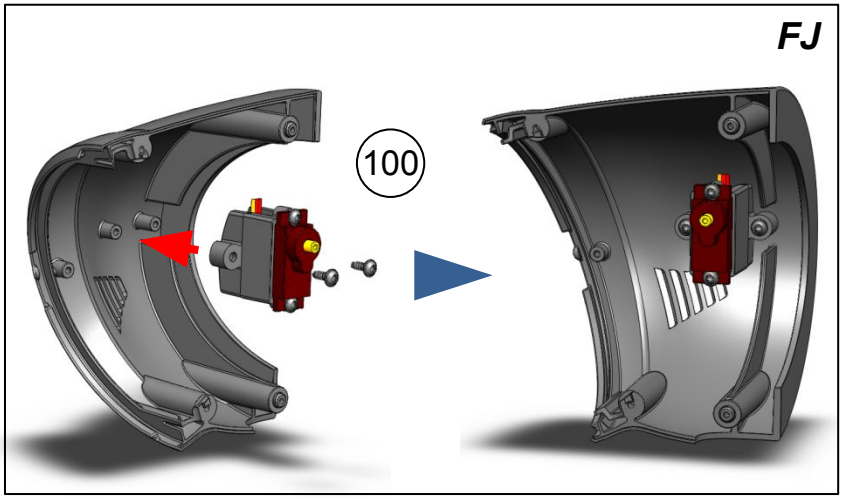
! Make sure not to over-stress the snap features, once into place it's very difficult to disassemble



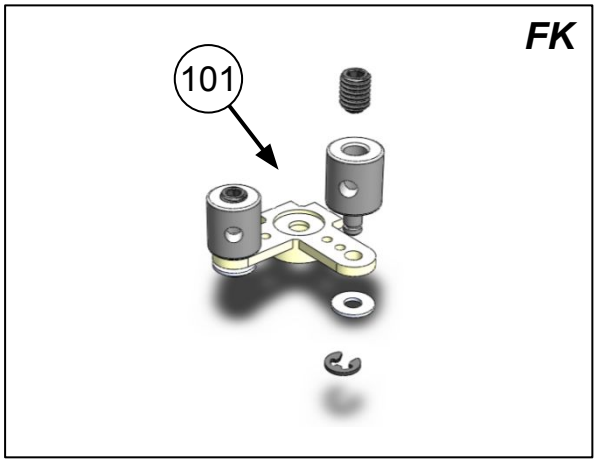
98. Connect push rod and tighten screws



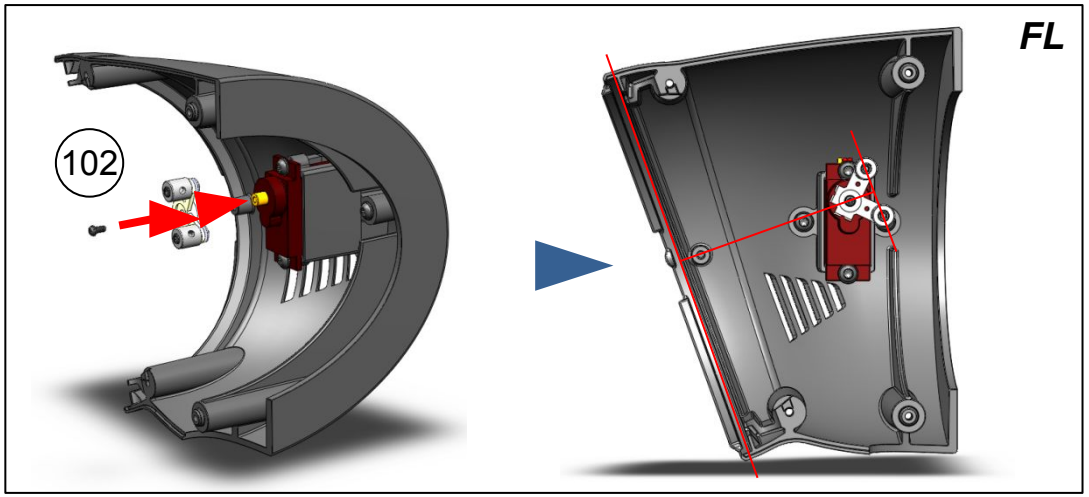
99. Insert servo into holder and secure with 2 screws
! Be careful with cable



100. Insert servo assembly into right main housing and secure with 2 screws
! Be careful with cable

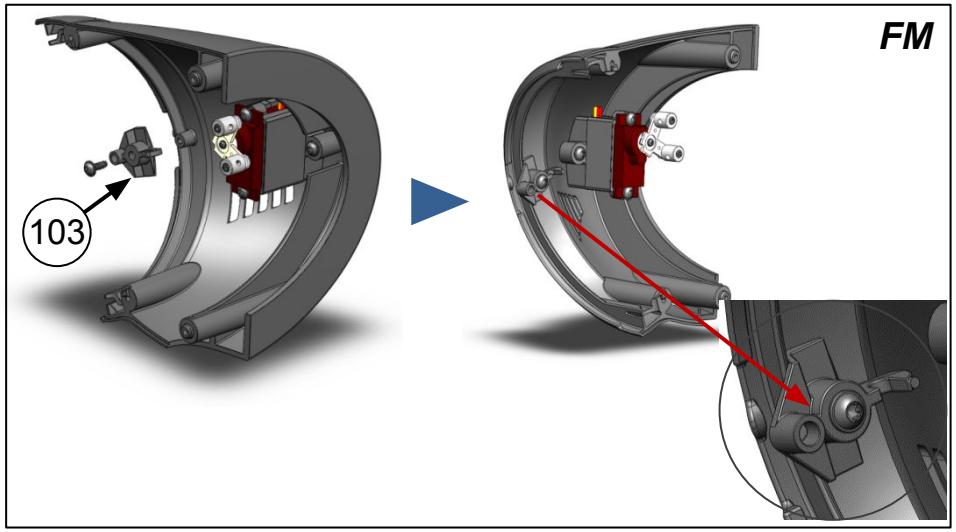


101. Assemble link stoppers to V-shaped servo horn secure with circlips
! Pre-assembled

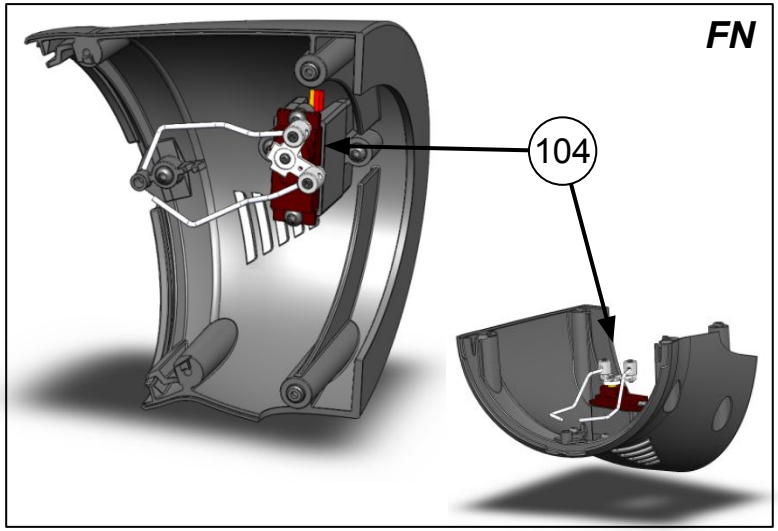


102. Align horn according to picture (parallel with front edge) and push onto servo. Secure with screw
! The servo must be centred prior to this step

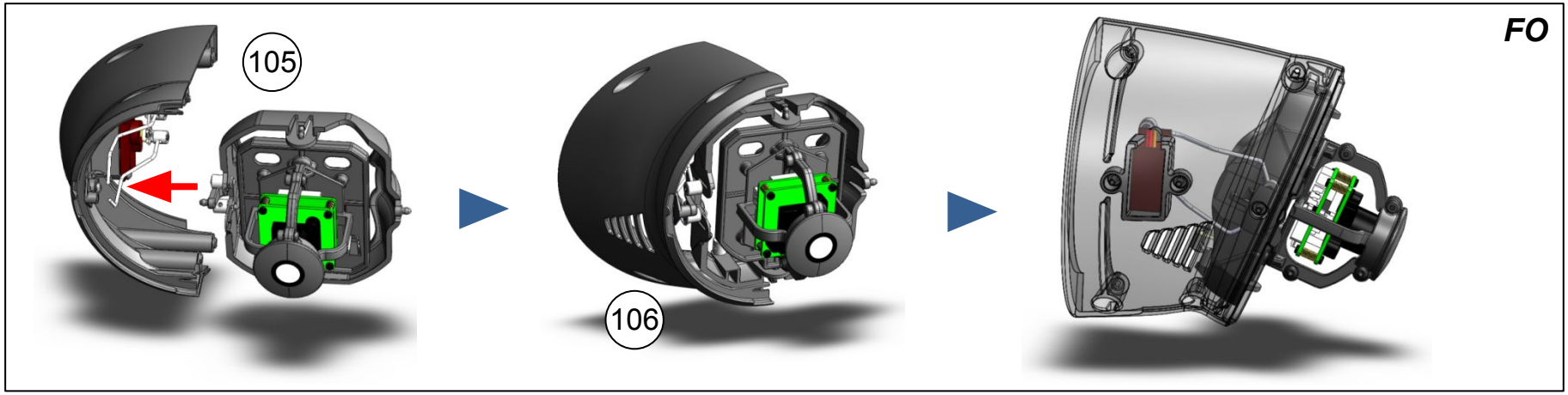
RVJET – Gimbal Micro Camera Tilt&Pan Assembly 5/7



103. Mount pivot clip to right housing and secure with screw

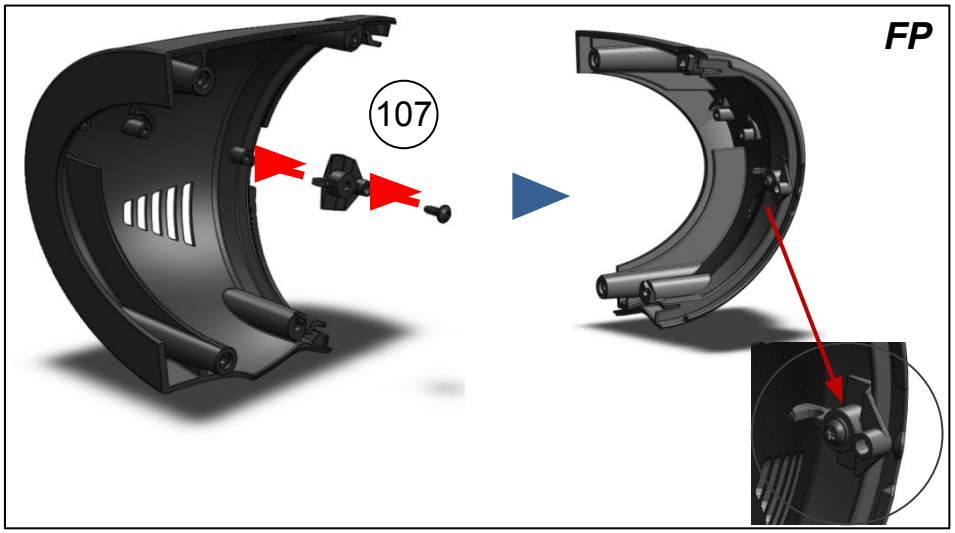


104. Mount push rods according to pictures

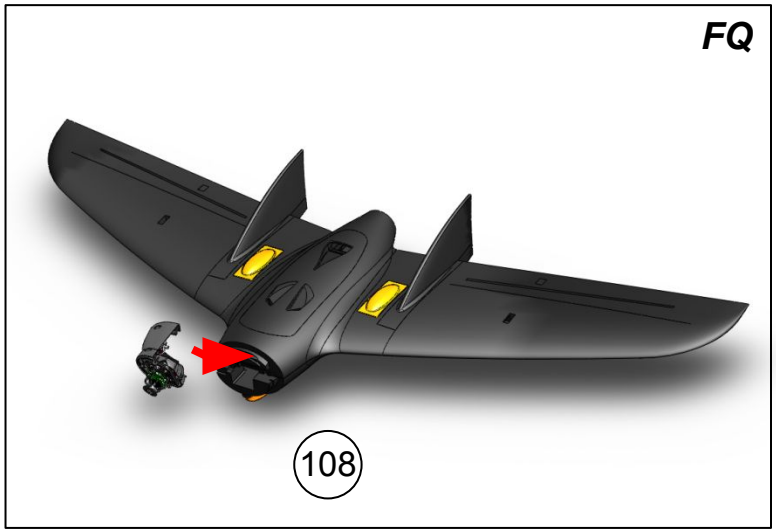


105. Insert the gimbal assembly into Right housing
106. Insert the push rods into the link stoppers and tighten screws
! *Make sure everything turns smoothly*

RVJET – Gimbal Micro Camera Tilt&Pan Assembly 6/7

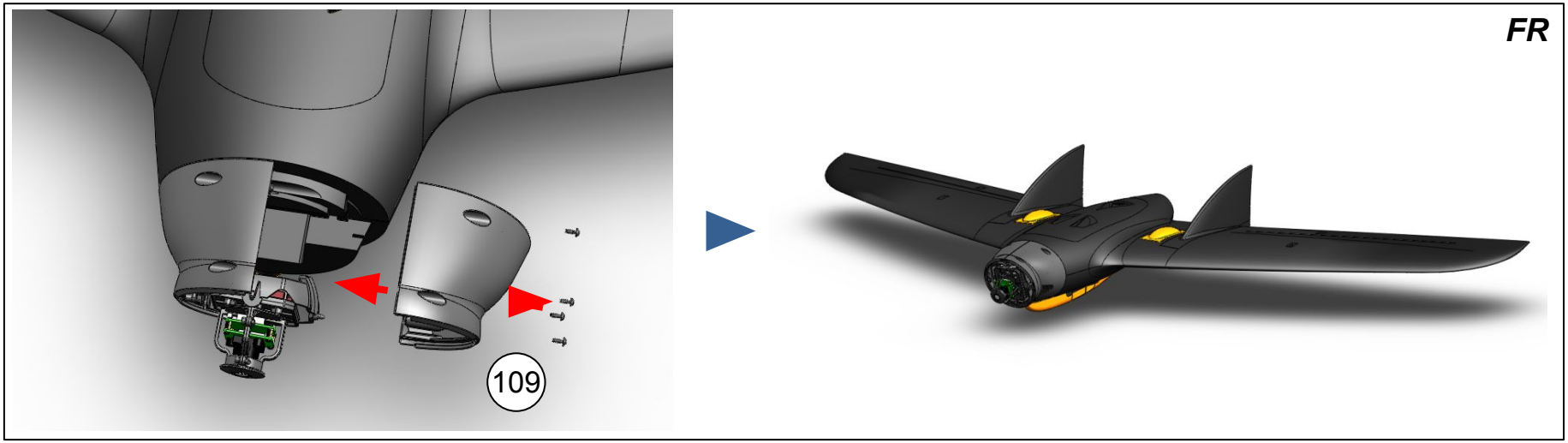


107. Mount pivot clip to left housing and secure with screw



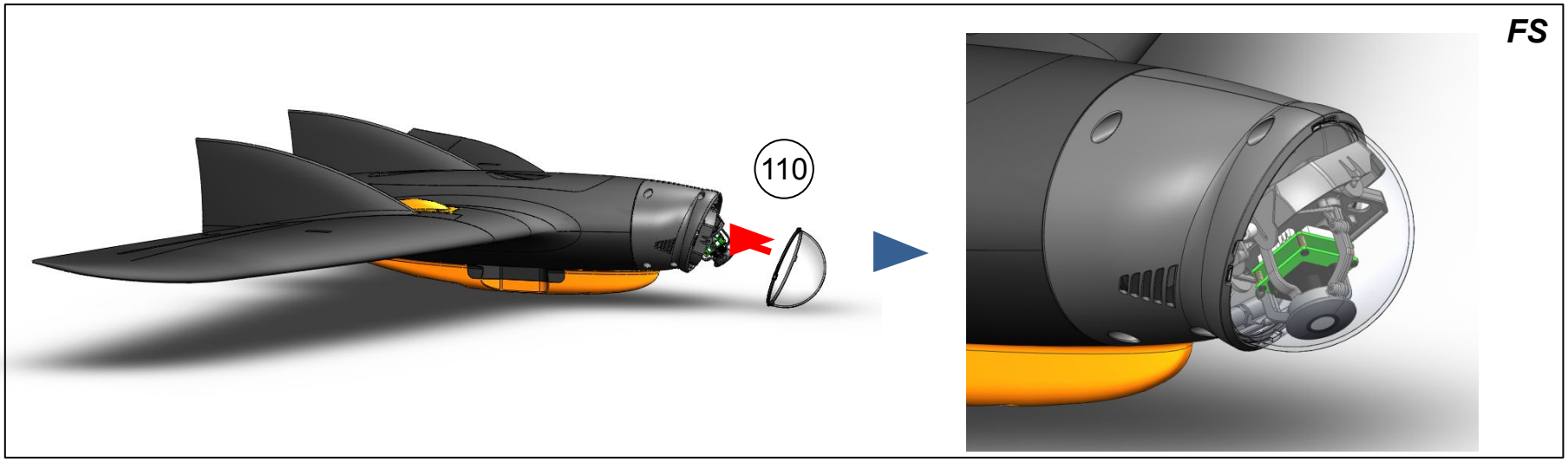
108. Slide the complete assembly carefully onto the fuselage

! If needed use some CA-glue to fix housing to fuselage



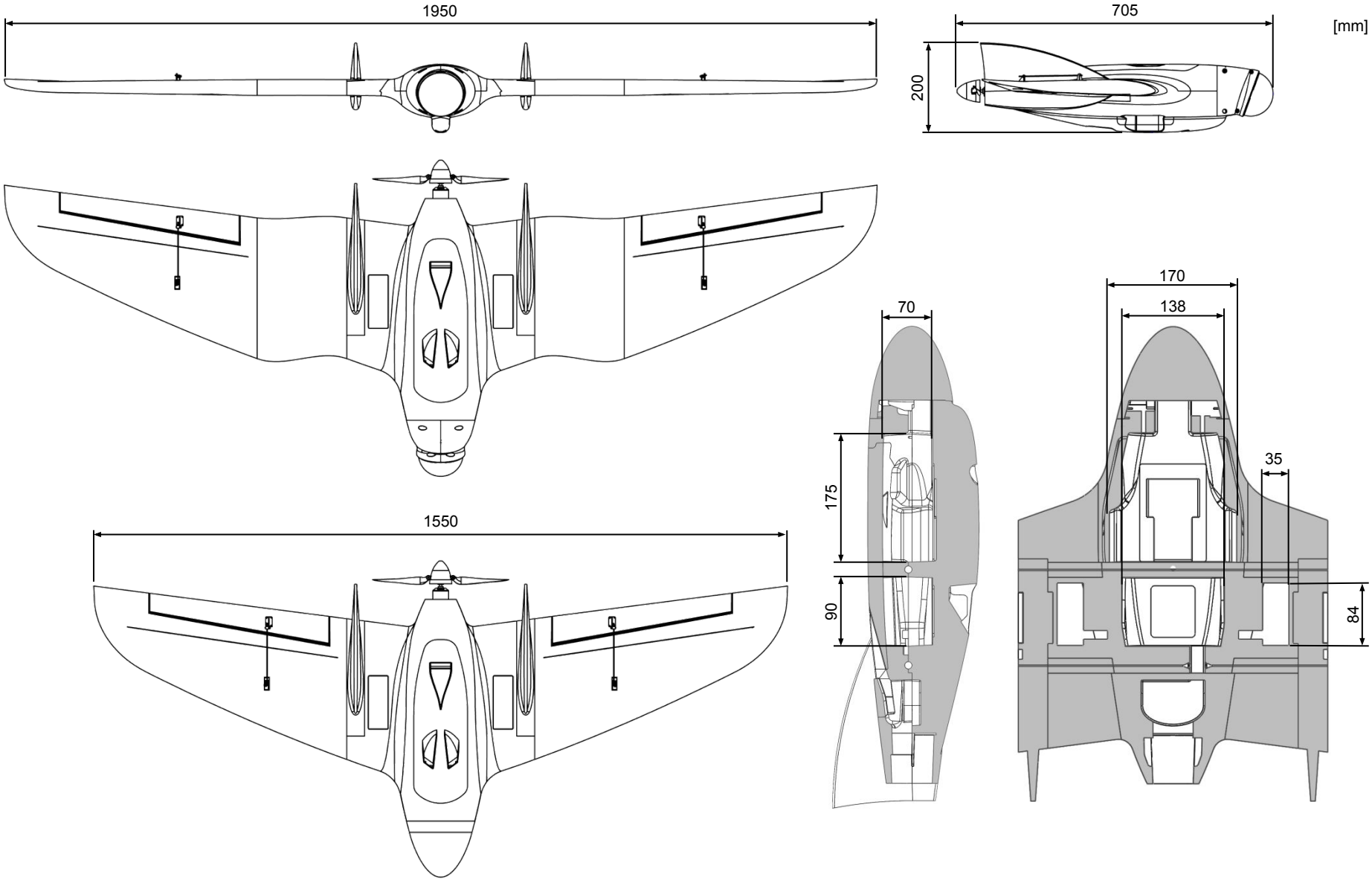
109. Check the cables assemble the right housing half and secure with 4 screws

RVJET – Gimbal Micro Camera Tilt&Pan Assembly 7/7



110.Attach the dome and rotate clockwise until it securely snaps into place. Congratulations, you have successfully assembled your RV-MiniCam Tilt & Pan!

RVJET – Dimensions



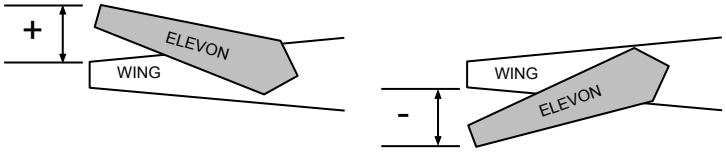
RC SETUP

Reflex +6mm

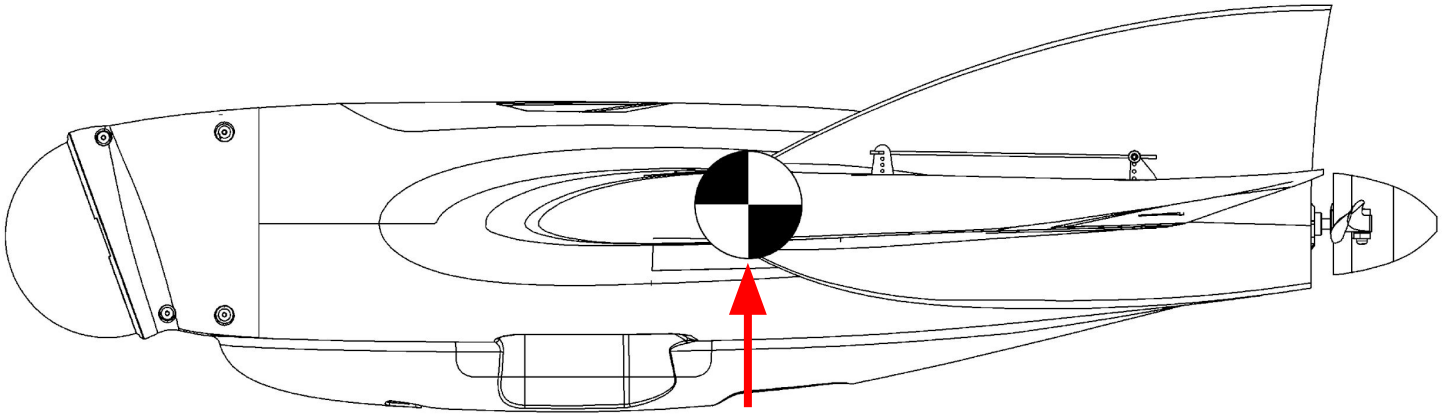
Aileron expo	*-40% (Futaba)*	*40% (OpenTX/JR/Spektrum)*
Elevator expo	*-40% (Futaba)*	*40% (OpenTX/JR/Spektrum)*

Aileron	*+ 25mm (1")*	*-13mm (1/2")*
Elevator	*+19mm (3/4")*	*-10mm (2/5")*

(Note: The above throws include the +6mm reflex)



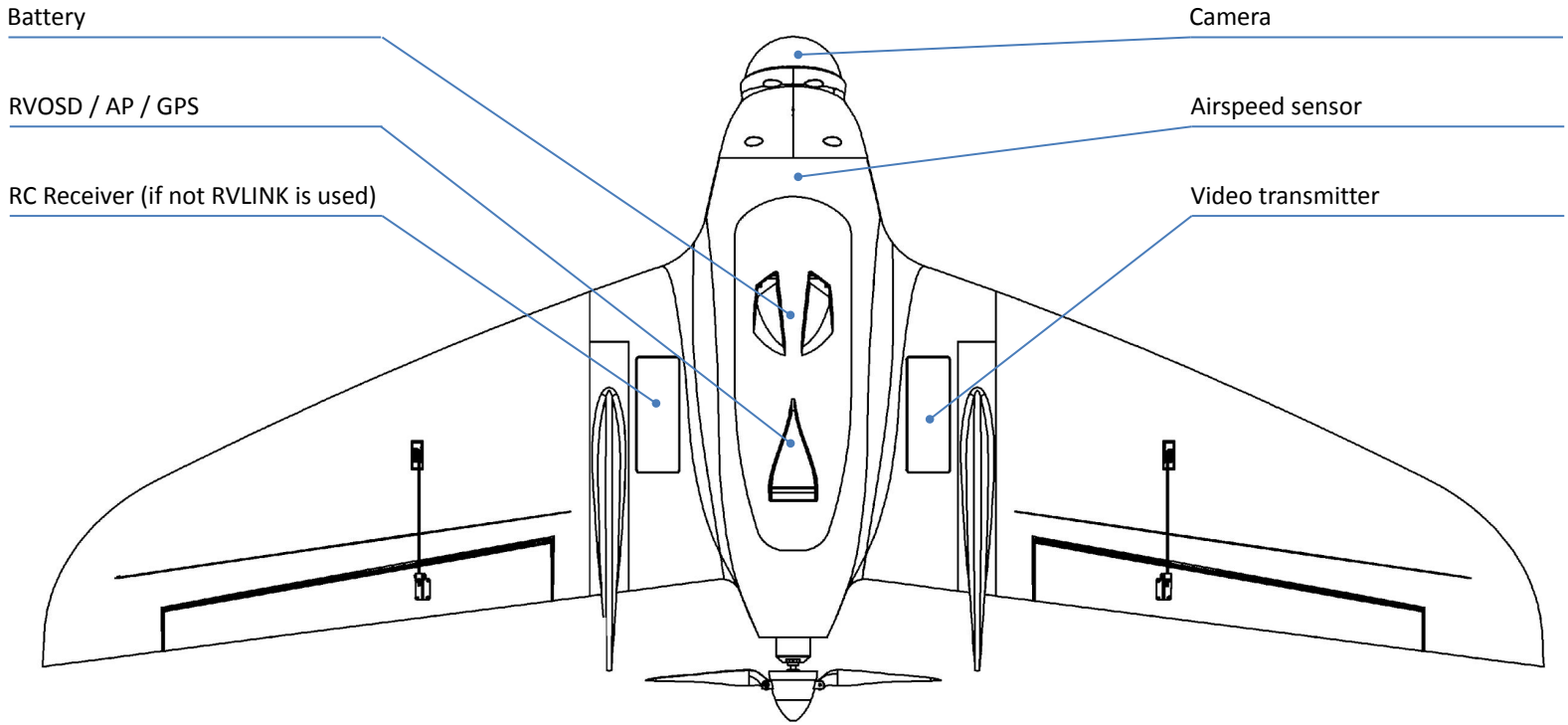
If the long wing appears very slow to roll, increase aileron throw.



Center of gravity should be where the tip of the fins joins the wing

FPV SETUP

OSD/AP: RVOSD G6
RC: RVLINK (or stand-alone RCRX)
VIDEO TX: RV 1.3GHZ 800mW
ANTENNA: CW 1.3 SPW
MINI CAMERA: RV DX201
HD CAMERA: GOPRO 1,2,3 (used with RV GPC)



RVJET – Q&A 1/2

What is the difference between long and short wing?

- *The long wing has a lower wing loading and glides better.*
- *The long wing has a VNE (maximum speed) of 100kph. Above this the RVJET can enter a turning dive with some loss of control, with proper procedure it is easy and quick to regain control.*
- *The short wing is more agile especially round the roll axis.*
- *The short wing can fly a lot faster, we have flown in excess of 170kph with full control authority.*
- *The control balance between roll and pitch differs between long and short wing.*

How do I exit the turning dive if I've exceeded VNE of the long wing?

The procedure is simple and full control authority should be regained within seconds if the following is done:

1. ***Turn off any stabilisation or autopilot***
2. ***Turn off throttle***
3. ***Place controls in neutral***
4. ***Apply full up elevator***

How do I secure the wings laterally if I don't like tape?

- *There are several methods which all work great. The lateral forces is very small and most methods will probably work. Instructions on how to do these are available on public forums (rcgroups.com) or contact Rangevideo for more information: https://rangevideo.desk.com/*
  ***O-ring** – Using an O-ring to hold the wings together is uncomplicated and reliable. For this you need wing joiners, either print yourself, purchase or use something else to hold the O-ring, for example a nylon screw.*
  ***Friction** – If the friction in the CF tube is high enough nothing else is needed.*
  ***Locking connector** – This locks wings in place as well as providing connection to the wing servo. Suitable connector is for example the TA3 (tinyXLR).*
  ***Tape** – Many dislike this method but it really works well.*

My parts were broken or faulty when they arrived, what should I do?

- *Contact Rangevideo support desk: https://rangevideo.desk.com/ or support@rangevideo.com*

What is reflex?

- *Reflex in the setup is basically how much elevator throw the model needs to fly straight without diving. For the RVJET correct reflex is to have the elevons angled up 6mm when controls are placed at neutral (ref: Setup).*

How do I launch the RVJET?

- *There are several ways. Important for all of these is to let the RVJET gain speed until you give control inputs. Trying to correct an improper roll to early might stall the wing.*

1. *Use a bungee. The RVJET has an integrated bungee hook in the skid.*
2. *Hand launch holding the wing. Give full power (>500W) and guide the model up into the air. Do not throw as that might result in roll tendencies that can't be countered until some speed has been gained.*
3. *Hand launch using the grip in the bottom skid. Turn up power, give a hard straight throw and follow through with your hand to get it out of the props way.*

How do I land the RVJET?

- *As with most airplanes the RVJET should touchdown when stall speed is reached. If you come in too fast this will result in a very long glide. If you try to touchdown when going to fast the RVJET might bounce and spin.*

How do I remove the motor?

- *We recommend using hex head screws when mounting the motor. It is then easy to remove screws using a spherical head hex driver.*

What motor suits the RVJET?

- *Diameter <49mm*
- *Mount holes CC 25x19-25mm*
- *Prop size ≤14" (distance between fins is 375mm/14,8")*
- *Power ≥500W for easy launch (less is of course possible as well)*

(As reference the RV Power pack has a 1200kV 3550 motor (>800W @ 3S) with a 12x6" prop)

The RVJET rolls too slow

- *Increase aileron throw. Especially the long wing tends to have a slower roll rate. If you want very high roll rate, increase aileron throw and fly using the short wing configuration.*

Using the RangeVideo OSD and Autopilot with the RVJET
For the easiest configuration, use a R/C receiver with CPPM out.
If you have a receiver with SBUS output, use a Frsky SBUS to CPPM convertor.
CPPM stands for combined PPM , and it contains all of your servo channels in one wire. It is much easier to work with since you can assign the channels in the RVOSD menu without physically switching their wire positions. It also means less wires; 1 wire instead of 4-8.

Connect;
CPPM from Rx to 'PPM1 Input' on RVOSD
Right wing servo to 'OUT2/Aileron'
Left wing servo to 'OUT1/Aileron'
ESC to 'OUT3/Throttle'

In the RVOSD main menu:
Enable R/C receiver
Set R/C receiver type to PPM
Go into PPM configuration and map your channels.
Set airplane mode to WING
Go to R/C wizard and follow it, setting the correct throw directions.
Set 'cruise throttle' to ½
Set 'glide throttle to ¼
Enable autopilot in RVOSD menu to 'RTH'

You can also assign an 'aux' autopilot mode. This mode can be toggled with the AUX1 input on the RVOSD. I suggest to set the AUX AP mode to Fly By Wire.

Maiden Flight w/RVOSD
Always setup an FPV video feed if you are flying the RVOSD with autopilot RTH enabled. You need to know what is going on in case something seems wrong. You can only know if you look at the OSD display.

Flight #1
Take off with Autopilot OFF
Trim the airplane for level flight.

Land
Set new 'neutral positions' in RVOSD autopilot menu (in-flight menu)

Flight #2
Toggle ON the AUX autopilot mode, fly by wire, and make sure the control throws are working in the right direction.
Take off in manual mode.
Climb to 200 meters
Toggle ON the AUX autopilot mode fly by wire.

Smile, the RVJET should be a dream to fly now.

I have omitted some important steps that are redundant in R/C :

1. *Always remove the propeller when doing setup in the RVOSD*
2. *Always do a range check before the maiden*
3. *If you plan to fly far away, or even if you don't, you should configure RC link lost detection and RTH on the RVOSD; do this before your first FPV flight. Even if RTH is not perfect, it can save your plane by turning it around and back into radio range.*

RVJET – Q&A 3/2

I can't insert the CF rods into the tubes

- *Try to reduce friction by sanding and tapering the CF rod. The rods should slide in without using much force but there shouldn't be any slack*

The CF-tubes that came in my kit are too long!

- *The fastest way is to trim to correct length yourself, otherwise contact Rangevideo support desk: https://rangevideo.desk.com/*

The RVJET won't climb in RVOSD AP-modes

- *Increase "Cruise throttle" or 'Maximum Power' in variable throttle mode.*

I got too many vibrations in my video

- *Look for slack in the gimbal links*
- *Make sure the Gimbal housing is securely attached*
- *If the Gimbal housing has slack, fix it in place with drops of CA glue*

I notice too many vibrations in my RVOSD/AP

- *Make sure the RVOSD/AP is securely attached*
- *Make sure the motor is securely attached and all screws are tight*
- *Balance propeller*
- *Balance spinner*
- *Balance motor*

The RVJET turns too slow in RVOSD AP-modes

- *Decrease "Waypoint loitering radius*
- *Decrease "RTH loitering radius"*
- *Increase "Max roll angle" to 45*
- *Increase "Heading proportional gain" to 60 (reduce if oscillations appear)*
- *Increase "Heading limit" to 60 (reduce if oscillations appear)*
- *See this video for a functioning setup: http://y2u.be/8hxnhSU48GE*