



At Precision Aerobatics, we developed the Addiction to deliver an aircraft unlike any other. Using advanced production techniques, including our revolutionary PA FiberFusion® construction, we created an airframe that is exceptionally light yet extremely strong.

Strategic carbon fiber reinforcement and meticulous weight reduction make the Addiction one of the lightest in its class, with very low wing loading and outstanding flying characteristics.

Through extensive flight testing, we evaluated numerous equipment combinations and identified a direct link between the drive system and overall performance. To ensure the aircraft flies exactly as intended by our designer and test pilots, we developed our Integrated Performance Airframe-Drive Systems® (iPAs®).

iPAs Set up when performance matter!

Each iPAs component has been selected based on extensive flight testing to ensure optimum performance, reliability, and handling, with many parts designed or modified specifically for the Addiction.

All demonstration videos found on our site feature aircraft equipped with an iPAs® setup.

Deviating from these recommendations may result in reduced performance and altered flight characteristics.

The Addiction is designed to deliver maximum performance without oversized, expensive power systems. Our recommended iPAs setup gives you strong, efficient power, long flight duration, and a perfectly balanced feel. It's lighter, more responsive, and easier on batteries and electronics than typical setups in this class. If you want the aircraft to fly exactly as intended — this is the system to run.

visit PrecisionAerobatics.com for more information

Specifications

Wingspan: 39.5"/1,000mm **Length:** 41.85"/1,063mm **Wing area:** 485 sq.in
Flight weight (Incl. battery): ~26.5oz /750 grams **Wing Loading:** 7.85oz/sq.ft

Motor	<p>PA Thrust 25 Outrunner with Rotorkool® Technology 95g brushless motor PA Item #AC-1889 PA CNC machined German made propeller adapter PA item # AC-2123 is sold separately for this motor.</p> <p><i>Using a motor larger or more powerful than specified may damage the motor box or result in airframe failure.</i></p>
ESC	PA Quantum 35A Evo ESC PA Item #AC-2188Evo
Battery	PA Gen2 LiPo 3S pack 11.1v 2200mAh 30-60C PA Item #AC-1992
Servos	4 of Nexatec NXT 70HV servo. PA Item #AC-2333-4
Propeller	<p>Vox 12x5 propeller PA Item # AC-2101 This propeller delivers excellent flight duration, strong pull-out from 3D maneuvers, and a good flight speed for precision aerobatics. It also offers great wind handling for sport flying, making it an all-around fun and versatile choice.</p>
Radio	6 channel lightweight receiver
Carbon Fiber Spinner	<p>1.8" Ultimate Style CF Spinner (CNC Machined) PA Item # AC-2048 Factory pre-cut, this ultra-lightweight carbon fiber spinner features a premium high-gloss finish. Each unit is individually tested in-house to guarantee it spins centered and true for vibration-free performance.</p>
Carbon Fiber Vortex Gen	<p>Addiction Carbon Fiber Vortex Generators PA Item # AC-1914 These CNC-machined VGs complete the ADX aerodynamic profile, providing a more "locked-in" feel. They are essential for maximizing stability in slow, high-alpha 3D flight and improving precision during Knife Edge tracking.</p>
Carbon Fiber Servo Arms	<p>PA Carbon Fiber Servo Arms (# AC-1913) These CNC-machined lightweight arms are essential for achieving the perfect geometry and full control throws required for 3D flight.</p>



Precision Aerobatics Addiction Version 4

What's new in this version?

- More completed at the factory than ever before.
- Pre-installed motor box, factory-glued to the fuselage for fast motor installation.
- Optimized linkage geometry to maximize servo efficiency and control authority for aggressive flight.
- Secure hatch latch system, no magnets.
- Updated V4 construction with the latest FiberFusion features - lighter, stiffer, and stronger.

Due to these updates, some steps outlined in the manual are no longer required.

Please refer to the first page of this document for the most up-to-date recommended electronics and propellers.

ADDICTION



Congratulations on your purchase of Precision Aerobatics Addiction

Warning – This is not a toy!

Be sure you have read and understood this entire manual before you assemble this model

Do not overlook the warnings and instructions enclosed herewith or those provided by other manufacturers, and the official AMA (Academy of Model Aeronautics) Safety Code (see at the end of this manual). They were designed to assist you in preventing damage or injury.

The instructions below are our suggestions only on how to assemble this model. There are other ways and methods to do so.

Precision Aerobatics has no control over the final assembly, the materials and accessories you use when assembling this kit or the manner in which the assembled model and the installed radio system and electronic parts, are used and maintained. Thus, no liability is assumed or accepted for any damage resulting from the use of the assembled model aircraft or from this instruction manual including but not limited to direct, indirect, incidental, special, and consequential damages. In no event shall Precision Aerobatics' liability exceed the original purchase price of this kit.

BY THE ACT OF ASSEMBLING AND OPERATING THE ASSEMBLED MODEL YOU ASSUME AND ACCEPT FULL LIABILITY FOR YOUR ACTIONS.

Radio controlled model aircraft that are not properly assembled, operated and maintained can cause serious damage to body and property. If you are not an experienced pilot and airplane modeller you must use the help of an experienced pilot or preferably an authorized flight instructor who will assist you with the assembly and flying of this model.

SAFETY NOTES:

1. Before assembling and flying this model read carefully any instructions and warnings of other manufacturers for all the products you installed or used on your model (especially radio equipment and power source).
2. Check thoroughly before every flight that the airplanes components are in good shape and function correctly. If you find a fault do not fly the model until you have corrected it.
3. Radio interference caused by unknown sources can occur at any time without notice. In such a case, your model will be uncontrollable and completely unpredictable. Make sure to perform a range check before every flight. If you detect a control problem or interference during a flight, immediately land the model to prevent a potential accident
4. Youngsters should only be allowed to assemble and fly these models under the instruction and supervision of an experienced adult.
5. Do not operate this model in a confined area.
6. Do not stand in line with, or in front of a spinning propeller and never touch it with any object.

Precision Aerobatics quality control team checks each plane before it leaves the factory to ensure that each kit is in fine condition. We have no bearing on the condition of any component parts damaged by use, modification or assembly of this model. Inspect the components of this kit upon receipt. If you find any parts damaged or missing, contact the hobby shop who supplied this kit immediately. All warranty claims to be submitted within 30 days of purchase and include the original dated receipt. This warranty is extended to the original purchaser only. We do not accept the return or replacement of parts on which assembly work has already begun. Precision Aerobatics reserves the right to change this warranty at anytime without notice.

A note from the designer:

Congratulations on your purchase of the Addiction V2. After building a few Addictions in different ways and sequences, I found the following sequence and methods to be the smoothest and easiest for you. We have spent weeks in preparing the instruction manual making it as detailed as possible, and you will find in it many tips and suggestions that will help you get the most out of your plane, in the safest way possible. **I urge you to read the manual thoroughly** and watch the PA build videos as well (available on the How to section and the model page on our site).

I hope you'll find the manual helpful and that you'll enjoy your new model.

Shaun Vanunu
Designer and Chief engineer

Equipment selection

At Precision Aerobatics we have gone to great lengths developing the Addiction V2 in order to provide you with an aircraft like no other. We have used unique engineering and untraditional production techniques, including our revolutionary PA FiberFusion® to create the lightest and strongest aircraft possible. The extremely advanced aerodynamic design, the extensive engineering and usage of carbon fiber along with our never ending quest to reduce weight ensures the Addiction V2 is like no other aircraft in its class! These factors contribute to the outstanding flying characteristics of the Addiction.

Throughout our extensive flight testing program, we have trialed many different combinations of equipment in order to obtain the best possible performance from the airframe. We noticed a direct relationship between the drive system chosen and the aircraft performance and handling characteristics. It is our desire that your Addiction V2 should have the same amazing capabilities as our designer envisioned and test pilots experienced. For this reason, we have developed a number of our own **Integrated Performance Airframe-Drive Systems®** or **iPAs®**.

Note: All the flying videos available on our website use, exclusively, the iPAs recommended gear which can give you a good idea on the high performance you can achieve.

Each iPAs incorporates the following equipment. Please be aware that any deviations from these recommendations will result in degraded flight characteristics.



- **Motor** - PA Thrust 25 outrunner motor with Rotorkool® technology (PA Item #AC-1889) 95gr, brushless motor (using a motor that is larger or more powerful than that specified can result in damage to the motor box or failure of the airframe). For more details on the Thrust 25 visit www.PrecisionAerobatics.com
- **ESC** - PA Quantum 30 Pro HV ESC with built in user-selectable (6V/7.4V /8V) Switching BEC (PA Item # AC-2188HV).
- **Prop adapter** -CNC machined precision prop adapter for the Thrust 25 (PA Item # AC-2123).
Use only a good quality prop adapter that spins perfectly true otherwise thrust and efficiency will be lost and vibrations may damage the motor box.
- **Battery** -PA 2200mAh V4 25-50c 3S (11.1V) Lithium Polymer (Item #AC-1992 or AC-2146 for 2pak special)
Note: different batteries will vary the motor's output and amp drawn and might push the motor beyond its limits. If using none-PA packs use a watt meter to verify that the output power and amp drawn are within the Thrust 25 range with the specified propeller. Please refer to the Thrust 25 data sheet available on www.PrecisionAerobatics.com
- **Connectors** - use original Ultra Deans plugs only. We found that using cheap copies can cause problems of conductivity and restriction of higher current flow resulting in serious loss of power.
- **Servos** - We recommend 4x NXT-70HV digital High Voltage servos (PA item # AC-2333) (AC-2333-4 for the 4 pack) or similar quality digital micro servos all around.
- **Extension lead** - German made, thin gauge flexible extension lead for EP models 2M/ 6.5ft (PA item # AC-1713).
- **Micro Receiver** - Four or more channels full 2.4Ghz (e.g. Spektrum AR6210 /610/620 receiver).
- **Propeller -VOX 12x5 wood** - This prop is a must-have with the Addiction V2 and is provided in our iPAs Pro package, this prop is an excellent match with overall performance for fast aerobatics and 3D. Great flight speed, faster roll rate, tighter tumbles and waterfall. The Addiction V2 has a very wide flight envelope from precision aerobatics maneuvers to very slow and easy 3D.

It is essential to allow good air flow (using the supplied air scoops and installing the gear per the instruction manual) over the motor, ESC and batteries regardless of chosen propeller.

DISCLAIMER - AIRFRAME LIMITATION

The Addiction V2 is designed for extreme aerobatics and 3D maneuvers and has robust construction that was thoroughly tested. However due to the extreme thrust produced by the Thrust 25, the low flight weight of the model and its large control surfaces, it is vital for the user to exercise discretion while executing high stress maneuvers so as to avoid over loading the airframe. EVERY airframe may it be an RC model or a full-scale aircraft has its maximum limits. Your Addiction is not an exception. The Addiction V2 is also specifically designed to operate using the recommended gear described above. Keeping within the design limitations greatly depends on your flying style and IS YOUR RESPONSIBILITY. Please read the Official Academy of Model Aeronautics National Model Aircraft **Safety Code** at the end of this book.

Pre-Assembly

Before you commence assembling please inspect the contents of the kit for any damage that may have occurred during transport or a suspected manufacturing defect. If you suspect any component is damaged please contact the shop from which you purchased the model immediately. Do not commence the assembling of this kit.

We go to great lengths to ensure all components are manufactured free of warp or twist, however, due to high temperatures on the long journey in a container and changes in humidity it is possible for small amounts of warp or twist to develop. It is important at this stage to inspect for warp. Start by taping the ailerons in the neutral position at the wing tip and look down the length of the ailerons to ensure they are perfectly straight. The ailerons should be neutral at the wing tip (profile view), as they are at the wing root. If the aileron appears to be either deflected up or down at the tip (known as wash-out or wash-in), it must be removed by gradually twisting in the opposite direction and carefully applying heat to the wrinkles on the covering film (ideally with a hobby iron). Start at a very low temperature and gradually increase until the wrinkles begin to shrink. Different films respond to heat in different ways and excessive heat will damage the covering. Repeat this process until the aileron is perfectly straight with no twist visible. Do **NOT** use a heat gun as it affects a much greater area which may cause an unwanted warp in other areas and burn the covering. Inspect all sharp edges of the covering trims to verify they are sealed down. If there are loose edges that peel off, use an iron to **lightly** seal them down, especially pay attention to wing and elevator tips (trailing edge & leading edge).

Place the elevator and rudder on a flat surface such a table top to ensure they are perfectly flat. Ensure the elevator is not twisted by checking that both elevator counterbalances line up perfectly with the stabilizer leading edge. If one counterbalance is slightly deflected up or down while the other side is neutral, the slight twist can be removed in the same manner as the ailerons by gently twisting in the opposite direction and applying heat to the film where it wrinkles. It is important to ensure that this step is completed prior to installing the stabilizer/elevator on the model.

Any small bubbles or wrinkles in the covering film can also be removed with a small hobby iron, **however extreme care must be taken, as it is possible to introduce warp to an otherwise straight part while removing wrinkles.** Start at low temperature and gradually increase it. Use the iron front tip and only over the wrinkles to avoid warping other areas! Avoid using a heat gun as it spreads the heat over a large area and can easily cause twists and warps.

Avoid keeping the hatch off the fuselage for long periods of time as it may develop some warp due to its length and climate changes. Do not leave hatch/canopy out in the sun as it may warp as well.

Note: Through the manual - all left/right/rear indications are from pilot view

You may also watch "PA Build" videos available on our website, however, don't miss reading this instruction manual.

Making the Openings

Start by ironing around the edges of the openings to be made (excluding ailerons) to ensure the covering does not peel back later. Next make the following openings in the covering film, as shown in the photos- elevator and rudder servos (cutout one side only), cooling air exit, stabilizer slot and aileron servo bays.

Note: There are two identical sets of servo openings on each side of the fuselage. Choose the side per your preference. Make sure to reveal the rudder and elevator control horn slots in the correct side of your servos final position.

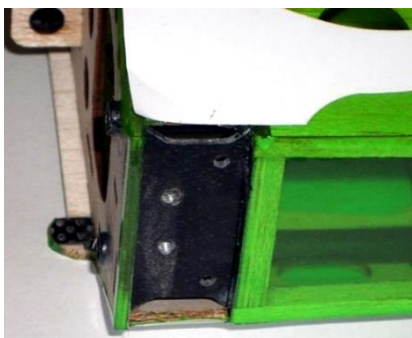
The easiest way to make the openings is by 'cutting' the film with the heated end of a paperclip (to heat use a cigarette lighter or a candle) or with a very sharp modeling knife.

NOTE: finding the aileron servo bays through the opaque vinyl is a bit challenging. The easiest method is to plug in the LED lights into a battery and you'll be able to identify the opening. Due to the reflection avoid using direct flashlight.

NOTE: Bottom wing square trims are made of high quality vinyl. Do not apply heat as you may damage it.



Air cooling exit



Landing gear bay



Aileron servo opening



Stabilizer slot + tail servo openings

Aileron servo installation

Feed the cable through the inside of the wing out through the opening on the wing root rib. Insert the aileron servos with the output shaft closest to the aileron. In case of tight fit don't force the servo in, instead use a fine file to slightly enlarge the opening.

Drill mounting holes as required for the screws supplied with your servos using a sharp 1.5mm (1/16") drill bit. Ensure that the screw holes are exactly centered. Use only fully threaded screws.

Do not use excessive force as this may damage the servo tray. Screw and unscrew the mounting screws and then apply a drop of thin CA into each of the holes to set the thread. Once the CA has cured install the servo.

Tip: Carefully "tap" the screws in by making a full turn in and then backing out by ¼ turn and repeat until the screw sits fully in.

Warning - we recommend **not to use** the rubber grommets and eyelets supplied with some servos as this method of mounting will introduce excessive flex of the servo case under flight loads and will cause a loss of resolution in control ("blowback" of the control surface). The best method is hard mounting of the servos (tail and aileron servos) with aftermarket screws without the grommets and eyelets.

Find the four carbon fiber control horns and lightly sand the base of the horns to allow better gluing surface. Expose the slots for the control horns. Since the Addiction V2 has an opaque vinyl trim over one side of the slot, use a heated paperclip or a modelling knife to reveal the slot through the top side of the wing as it is easy to see the slot through the translucent covering. Test fit the CF horns. If the fit is too tight; do not force the horn in. Instead, use a modeling knife to carefully enlarge the opening until a perfect fit is achieved.

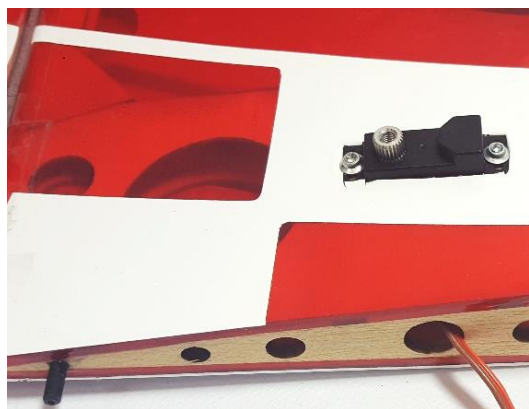


With the servos centered in neutral, temporarily install the plastic servo arms. Find the best position of the servo arm which yields 90 degrees to the servo case. That ensures linear and symmetrical throws in both directions without the need of excessive TX sub-trims and servo travel adjustments to one direction. Once satisfied, cut off the other three unused arms using a nail clipper or cutters.

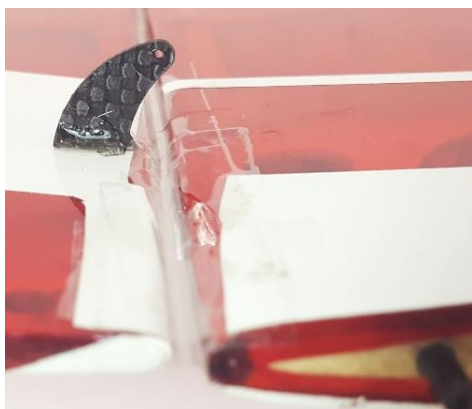
In order to achieve maximum control throws for 3D and to ensure proper linkage geometry we recommend using PA Carbon Fiber servo arms (PA Item Code AC-1913). Note that these are not included with the kit. If you have them, install them now. You may wish to do so for the elevator and rudder servos at this point too.

Next, apply epoxy over the control horn base and inside the slots to glue the CF horns in and ensure that the horns were inserted **all the way in** and are perfectly 90 degrees perpendicular to the control surfaces. There will be a bit of epoxy excess once the control horns are slid into the slots. Do not wipe it off as it will create a solid base to the horns. IF needed, use a piece of masking tape to hold the CF horns in position until the glue sets. Ensure adequate epoxy is applied to fill up the holes at the base of the horns (once dry it acts as fixation pins).

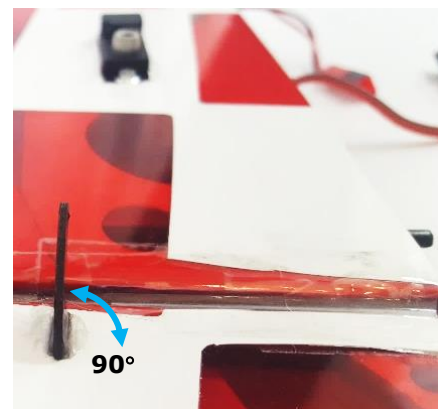
Note: epoxy allows time for adjustment after the horns have been inserted while CA is prone to set too rapidly and may also cause stains to the covering film.



Aileron servo



Aileron control horn



Ensure horn is perpendicular

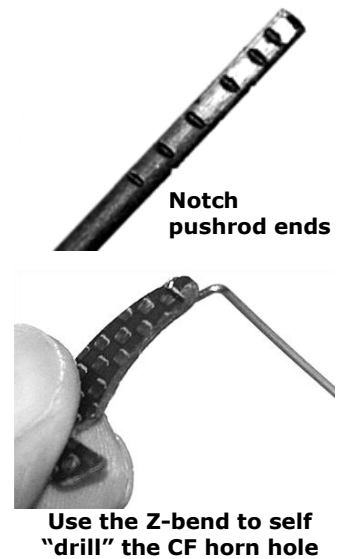
Once the epoxy sets, take the two identical aileron pushrods which are the shorter of the four supplied.

Lightly roughen and notch one end (+20mm/0.8") of both CF pushrods using a Dremel disk or small triangle file to ensure a secure glue bond. Do the same to the Z-bend gluing surface, however, since it's made of metal, you may choose to use a pair of wire cutters to make a series of indentations but being careful not to cut through the wire. Verify the Z-bends are free from any oil residue that will affect the integrity of the gluing. Clean with alcohol if necessary.



Roughen Z-bend surface

The carbon pushrods come with one pre-glued z-bend. Add a drop of thin CA to the pre-glued Z-bend as precaution and install it into the aileron control horn (insert the z-bend from the wing tip side of the horn). The CF servo arms and control horns were pre-drilled for the Z-bends; however, they were drilled undersized to achieve a tight slop-free fit. Use the sharp end of the Z-bend to self "drill" the mounting hole. This ensures a perfectly sized hole that will prevent any undesired 'play' in the control surface during flight. Do not force the Z-bend into the horn but instead gently rotate it back and forth into the CF control horn.



Take one of the four pieces of heat shrink tubes and cut a small piece (2-3mm 1/8") off the end. Slide the longer followed by the shorter piece of tube onto the pushrod. Temporarily attach the z-bend to the pushrod using the smaller piece of heat shrink. Use a heat gun or cigarette lighter to shrink the tube, NEVER apply heat to the heat shrink tube near the covering film, as this will cause the film to melt. This will require you to remove the servo arm whenever applying heat).

For correct linkage geometry use the PA CF servo arms and install the Z-bend in the correct mounting hole (see photos). Z-bend should be inserted from the underside of the servo arm (this applies to all servo arms except the elevator).

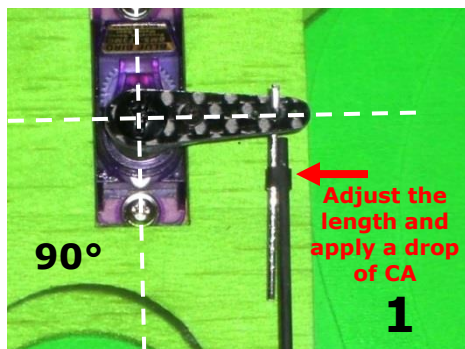
NOTE: Any deviation from this setup will affect the performance or even overload your servos!

Temporarily tape the aileron in neutral position, install the servo arm and center it in neutral (90 degrees to the servo case). Next, adjust the length of the pushrod by sliding the Z-bend along the CF rod as required and verify alignment.

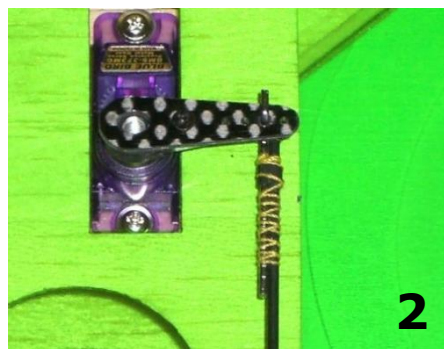
With the pushrod in the correct length, tack the assembly with a tiny drop of thin CA just enough to temporarily hold the assembly in place. Once the glue sets carefully remove the entire assembly without breaking it apart. Then tightly wrap the Z-bend to the pushrod using the supplied string. Soak the string in thin CA and immediately slip the long heat shrink tube over and shrink it. Allow the CA to set before re-installing it back on to the servo.

NOTE: It is best to apply a tiny drop of CA to the end of the string to prevent it from unraveling.

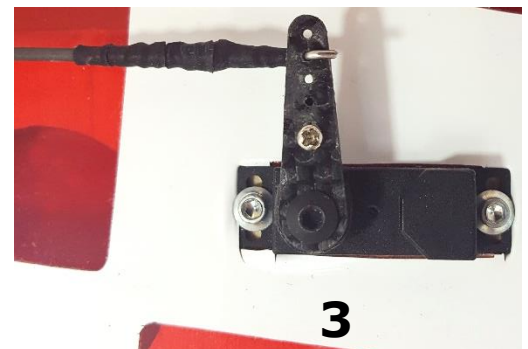
Follow the same steps to install the other aileron linkage.



Attach Z-bend with small piece of



Wrap string and soak with CA



Slip over the heat shrink tube

Verify the gluing integrity of all Z-bends prior to final installation. To do so simply try to rotate and pull the Z-bend out applying reasonable force. These pushrods have been proven to be extremely reliable under extreme flight loads if made properly. We don't recommend changing to metal linkages which tend to flex and are heavier, therefore, shift the CG.



Note the Z-bends orientation



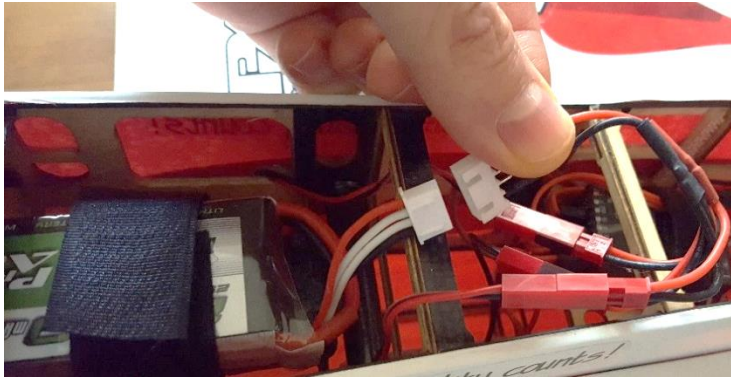
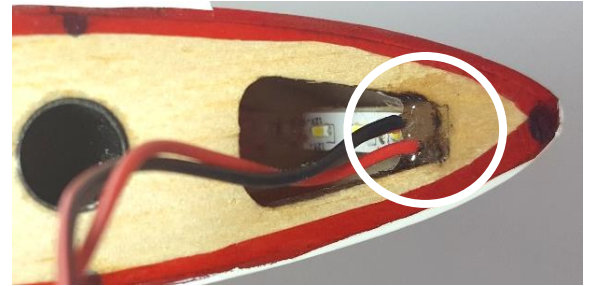
Aileron linkage geometry

LED night flying

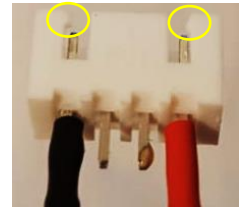
Illuminating your Addiction V2 for night flying is done via main flight battery, therefore, additional battery is not required. Use the PA light harness to switch on the lights. Plug it into the battery balancer plug before takeoff (leave the three LED strip plugs permanently plugged in).

WARNING: The installed LED lights should be powered with 3s (11.1V) pack. Higher voltage will burn the LEDs.

The soldering joints of the LED cables are delicate and can break loose over time or during transportation. Apply a dab of epoxy over these joints as precaution to secure them firmly onto the PCB board and to the airframe. You can do that during one of the manual steps which requires epoxy. Use a long rod to apply the epoxy on the fuselage LEDs either through the top of the fuselage or the lower front bulkhead opening.



NOTE: If the balancer plug fits too tight, you can use a fine file to slightly trim the plastic lugs of the harness plug to allow an easier fit.



Elevator & Horizontal Stabilizer

The stabilizer and elevator come pre-hinged with the hinge gap sealed; all that is required is to glue the stabilizer into the fuselage slot. The stabilizer inserts into the fuselage slot from the rear which requires the removal of the balsa at the rear of the slot. This is best done with a sharp hobby knife. Place the fuselage flat on its side on a hard surface and with a sharp blade, carefully cut the balsa out.

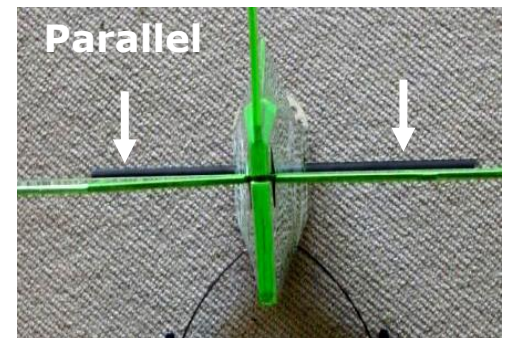
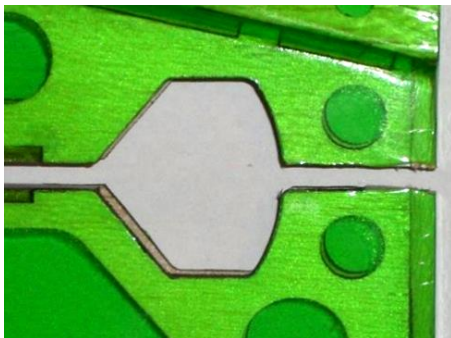
Lightly iron down the center portion of the horizontal stabilizer (both sides) to prevent the covering from peeling off when you slide it into the fuselage after cutting. Use a sharp blade to carefully cut the covering from the top and bottom center of the stabilizer along the laser marked lines (lines are visible from one side of the stabilizer only). **Note:** Apply just enough pressure to ONLY cut through the covering film and NOT the wood beneath as this can cause a failure of the stabilizer in flight.

Tap the elevator in neutral position and slide the stabilizer all the way into its slot, until it reaches the stop at the front end of the stabilizer slot in the fuselage.

If the fit is tight do not use force. Merely widen the slot evenly using a file until the stabilizer slides through.

Next, temporarily insert the wing tube to the fuselage. Looking from the rear check that the stabilizer is parallel to the wing tube and 90° to the fin. If the stabilizer is not parallel to the wing tube, remove the stabilizer and lightly file the fuselage slot to achieve perfect alignment. The stabilizer, after filing, must sit parallel to the wing tube.

Tip: If you have difficulty to visually check the stabilizer alignment with the wing tube, temporarily install the wings (with the ailerons taped in the neutral position) to make the visual reference.



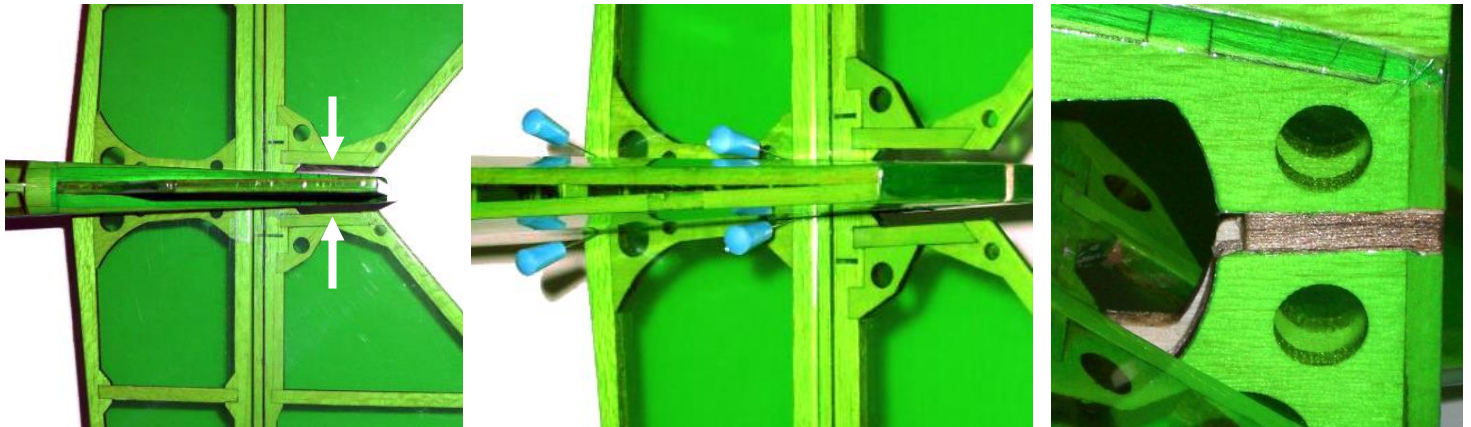
Check from above that the stabilizer is perfectly aligned in the fuselage slot. Use the laser-cut holes in the stabilizer as a reference (distance from both sides of fuselage should be equal). The stabilizer can be temporarily pinned to help during alignment.

Make a final check from all angles that the stabilizer is perfectly aligned then lift the fuselage tail up and apply a few drops of thin CA in the center of the stabilizer (top and bottom). Holding the fuselage in an angle will allow the thin CA to run along the seam.

Note: Take care using CA glue as it causes discoloration of the covering film, do not use excessive amount of glue.

Note: While gluing the horizontal stab, it is extremely important not to place any pressure on the fuselage. Doing so can result in the fuselage being glued with a permanent twist impairing the flight performance.

slide the supplied balsa wedge into the gap you previously cut at the rear of the fuselage. Being oversized, you need to lightly sand the balsa wedge (all around) until it fits flush with the fuselage. Do not attempt to force the wedge in as this could risk inducing a permanent twist in the fuselage (as with the stabilizer). Once satisfied, glue the wedge in with CA. You may use scraps of covering material previously cut to cover the balsa wedge.



Rudder

The fuselage/fin and rudder come with the hinge slots pre-cut at the factory. Fit the two hinges into the rudder first (hinges fitted half way in). If they don't fit in easily or slightly off centered, use a sharp modeling knife to carefully re-cut the hinge slots to correct as it will affect the flight performance. Avoid widening them as that can cause them to detach in flight if thin CA is used to glue them.

Apply a drop of thin CA over each hinge to glue them to the **rudder** and let it cure. Fit the rudder into the fuselage all the way in leaving no hinge gap. Align the rudder counter balance with the fin leaving a small gap that allows the rudder to deflect freely, then place the fuselage on its side and fully deflect the rudder until it hits the elevator (elevator must be in neutral position. If needed use sticky tape to hold it in neutral).

Apply a few drops of thin CA to both sides of the hinges (while deflected) and repeatedly deflect the rudder in a quick pace until the CA sets. Try to pull the elevator off the stabilizer to verify the integrity of the hinges gluing.

Tip: It's recommended to apply thin CA to the hinges with a pipette tip applicator supplied with your CA bottle to avoid "fogging" the covering. If fogging occurs, it can be easily removed by wiping off with a paper towel dipped in with acetone or nail polish remover.

Next, seal the hinge gap with the supplied covering strip to match the color scheme. The strip should be applied from one side only, to your preference, and trimmed to match the color scheme (clear tape can be used over the white flames). Align the strip along the hinge line and starting at one end, iron it down along the length of the rudder (do not iron to the fin at this stage). Deflect the control surface to maximum and iron the film into the hinge gap using the point of the iron. Now iron the strip along the fin/fuselage while fully deflected to maximum. This method ensures the gap is completely sealed while still allowing full deflection of the control surface.

Note: Peel off the translucent protection backing of the strip before using it, otherwise, it will not stick to the surface. If you are unable to, it could well be that it was already removed in the factory.

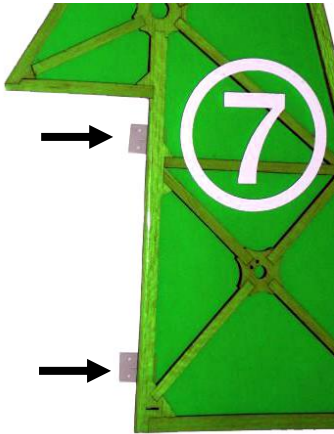
Sealing the elevator hinge gap is an **extremely** important step and an integral part of the Addiction design. Skipping this step will have a detrimental effect on the flight characteristics!

Once the rudder is installed, it must be checked for warp (rear pilot view).

Note: although we fix warps on all parts after the covering process, due to the lightweight construction of the rudder it is normal for it to have some small amount of warp that occurred during the long journey in the container and to your doorstep. There is no need for concern as this can be easily removed.

Note that to guarantee a warp-free rudder would have meant deliberately beefing up the internal structure of the rudder which would then result in an unacceptable control surface weight penalty.

Tape the rudder in the neutral position and look from the rear to verify that the trailing edge of the rudder is perfectly vertical. If it twists to one side, carefully counter twist it in the other direction and apply heat where it wrinkles using an iron as you did with the ailerons and elevator. Continue until the trailing edge of the rudder forms a perfectly centered vertical line.



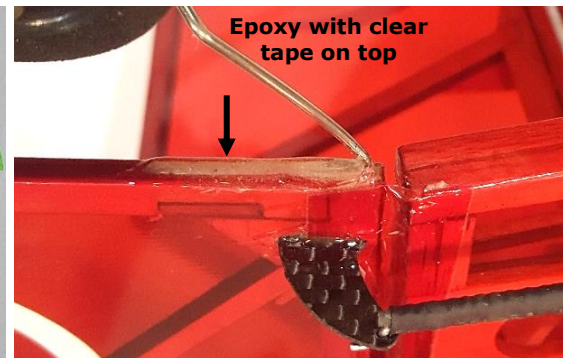
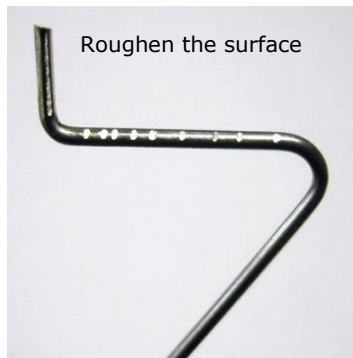
Apply CA

Tail Landing Gear (LG)

Align the tail LG against the rudder and use the tip of the wire to mark the position of the hole to drill for the wire to fit in. Drill a hole in the marked position using a 1.0mm drill bit. With the LG in place verify its alignment with the rudder and if needed correct it by bending the strut with pliers before glued in.

Make some indentations in the surface of the LG wire using a file/Dremel tool. The indentations provide better surface for the glue to bond.

Apply 30 minute epoxy (not CA) over the wire and drilled hole and install the LG. Apply another thick layer of epoxy over the LG wire. You may lay a small piece of fiberglass cloth or scotch tape over for additional reinforcement. Leave the assembly aside until the epoxy sets. Note: if the wheel doesn't spin freely, wobble it a bit until it spins freely.

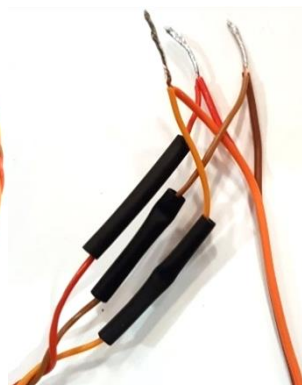


Elevator & Rudder servos

The tail servos require a pair of 410mm/16" extension leads (if NXT70-HV is used). We recommend extending the leads using a good quality lightweight servo extension to save on weight, avoid RF noises and voltage drop (PA Item Code AC-1713 is a German made low resistance flexible Extension Lead and is included in the iPAs Pro package). Cut the servo lead close to the servo case. Expose each cable end, then solder each to the extension lead according to the colors. Insulate the cables with a shrinking tube over **each** of the soldered cables (fit them on before soldering the wires).



PA Lightweight servo extension



Tail extension leads



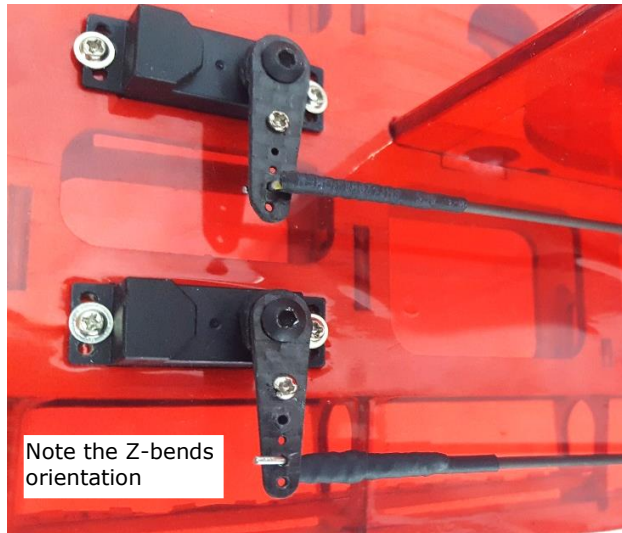
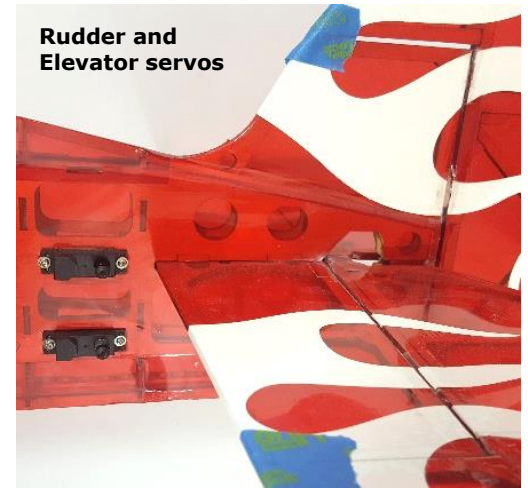
Solder and insulate each cable

Install the tail servos in the opening you previously cut in the covering film with the servos' output shaft closer to the control surfaces as per the photos. **DO NOT** force the servos in as you will cause damage. Slightly enlarge the openings if needed, using a sharp blade to "shave off" a bit of ply. Alternatively, you may use a small flat file. Test fit servos during the process.

Drill mounting holes as required for the screws supplied with your servos using a sharp 1.5mm (1/16") drill bit. Ensure that the screw holes are centered. Use only fully threaded screws.

The servo mounts have ply doublers glued on the inside of the fuselage; therefore, applying a drop of CA into each hole is not actually required (however this can be done should the screws become loose). Run the servo leads through the bulkheads (over the CF rods).

Tip: Carefully "tap" the screws in by making a full turn in and then backing out by ¼ turn and repeat until the screw sits fully in.



Expose the slots for the elevator and rudder control horns in the **correct side** of your servos final position. Glue the elevator and rudder control horns in place using epoxy in the same way as you did with the aileron horns. Remember to fully insert the horns, and ensure they are perpendicular to the control surfaces. Once the epoxy sets and with the elevator and rudder taped in neutral position and the servo arms at 90 degrees to the servos install the pushrods.



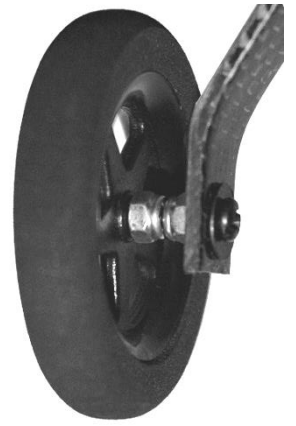
The pushrod installation uses the same method used with the ailerons, however pay careful attention to the orientation of the Z-bends; the rudder control horn Z-bend inserts from the bottom and the elevator Z-bend inserts from the **outside** of the horn and servo arm.

Verify the gluing integrity of all Z-bends, as you did with the ailerons, prior to final installation.

Landing Gear (LG) struts

Install each wheel onto the CF landing gear strut using the black M3x20mm bolt/axle in the pre-drilled hole. The order of hardware is: Bolt/ Black Washer/CF gear strut/ Two lock nuts /Wheel /Lock Nut.

The wheel should be captured between the lock nuts tight enough to still allow free rotation of the wheel. If the nuts are too loose the wheel is likely to wobble and is more prone to damage or scuff the wheel pants. Verify that the tires are firmly glued to their rims. Apply a little bit of thin CA around the perimeter of the rims if required to keep them firmly in place.



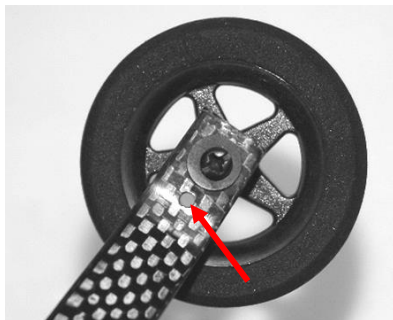
Wheel Pants

First, differentiate between the left and right-hand side of the LG struts by placing them on the fuselage LG plate mounting holes. Position the fiberglass wheel pants over the wheel at the height you desire. If flying off grass, mount the pants higher leaving more wheel exposed and if flying off a sealed runway, the wheel pants can sit lower. Once satisfied with the position, mark the location for the self-tapping wheel pant retention screw (2x10mm screw with soldered washer) on the LG strut. Place it on a flat solid surface and drill it using a 2.0mm (5/64") drill bit.

Mark the location of this hole onto the wheel pant, and drill, using a 1.0-1.2mm (+-3/64") drill bit.

Apply a bit of epoxy or a piece of foamed double-sided sticky tape between the LG strut and the wheel pant to prevent it from wobble.

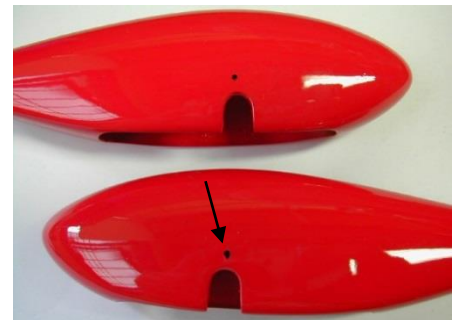
Attach the wheel pant to the landing gear strut using the self-tapping screw but DO NOT apply excessive force while doing so as this risks shearing the screw's head off. Rather "tap" the screw in gradually and if it becomes too tight, remove it and slightly enlarge the hole in the LG strut. Verify that both wheels pants are mounted at the same angle and height. Remove the retaining screw and cut off (using cutters or Dremel tool) its sharp edge so it will not hit the wheel, then apply a drop of thin CA glue into the hole to stiffen the thread. Once the glue has cured, install the wheel pants with the screws.



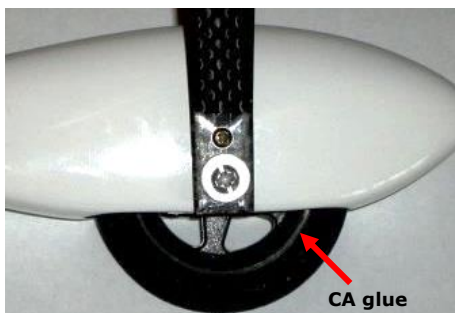
Drill a 2.0mm hole



Aligned the wheel pant



Mark and drill a 1.0mm hole



CA glue



Installing the Landing Gear (LG)

Each landing gear strut is attached to the fuselage using one M3x10mm bolt and washer in the pre-installed blind nut, and one self-tapping screw (2.8 x 10mm screw with soldered washer) in the pre-drilled hole.

Note: if the LG struts hit the balsa on the sides of the fuselage, use a sharp modeling knife to trim the balsa keeping the gap with the LG to minimum.



Motor Box

When assembling your Addiction V2 or replacing your motor box after a crash, please follow these few precaution steps to verify your motor box will withstand the high torque of the Thrust 25 setup.

I purposely designed the Addiction motorbox as a separate part to the fuselage. The main advantage is after a crash/mishap as the flyer only needs to replace the motorbox instead of the entire fuselage and tail section. That saves a lot of money. It does require a little extra work but it is certainly worth it in the long run.

The motor box comes pre-glued, with the correct motor thrust angle built into the pre-drilled firewall.

CAUTION- The motor box has been designed, tested and drilled for the Thrust 25 motor. Using a larger motor or using an improper propeller size or a prop adaptor which is out of true can lead to a motor box failure which will cause damage to your Addiction. For technical data on the Thrust 25 please visit www.thrustmotors.com.

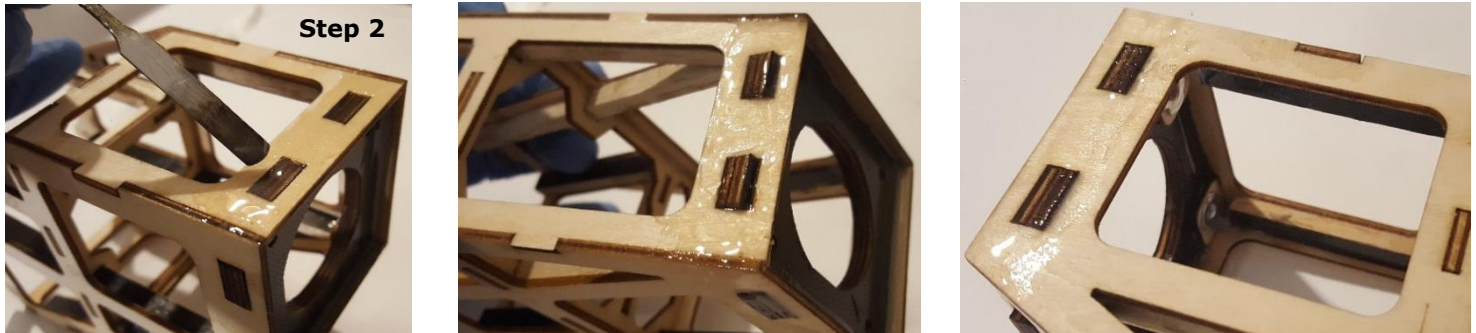
CAUTION- Once glued the motor box is extremely robust, however, following any crash, propeller ground strike or hard landing it is essential that the cowl be removed and all joints inspected for cracks and repaired as required. **Do NOT use any imbalanced, oversized, chipped propellers or with an off-centered hub hole as excessive vibrations can lead to premature motor box failure.**

If your motor box broke due to a crash we recommend that you don't attempt to repair it as it may fail in flight. Replacement motor box is available (see replacement parts list at the end of this manual). Instructions and video on how to replace it are available on our website (How To section).

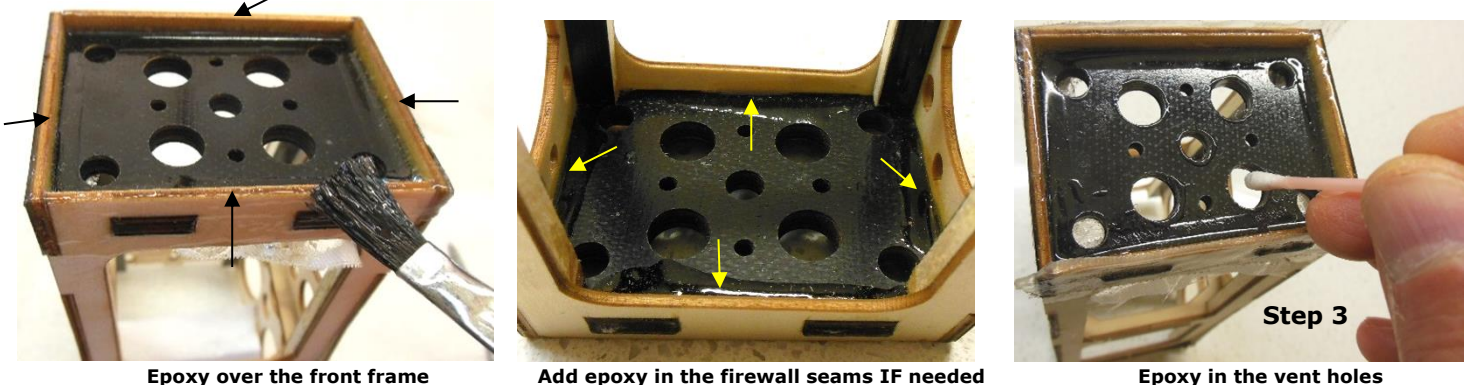
1. Prior to installation **go over all pre-glued joints** with carpenter wood glue or epoxy (**except the mounting plate**) to ensure they are properly bonded and no gap between the parts is present so it will be able to withstand the torque generated by the powerful Thrust 25 motor. Go **thoroughly** over the entire motor box and verify that there are no cracks. If there is any, it must be fixed properly with epoxy.

2. Apply a thin layer of slow cure epoxy (with a stick, flat tool or a brush) over the motor box front perimeter (including top and bottom sides). Continue by applying a bit of epoxy over the front frame. Inspect the firewall seams and apply a bit of epoxy **IF** needed.

Some of the photos used in this step were taken from a different PA plane



Apply epoxy over the motorbox front perimeter (including top and bottom sides)



Epoxy over the front frame

Add epoxy in the firewall seams **IF** needed

Epoxy in the vent holes

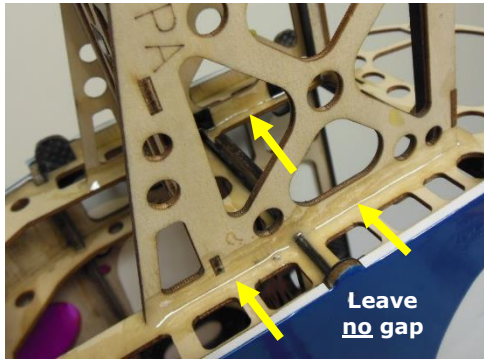
3. Using a cotton swab apply a thin layer of epoxy in the mounting plate vent holes except the mounting bolts' holes. wipe off any excess where the motor will be mounted.

4. The motor box is held in place by four carbon pins behind the bulkhead. These carbon pins fit into the pre-drilled holes in the motor box mounting lugs. A pair of needle nose pliers can assist in fitting the carbon pins, it may be easier to fit the lower two pins through the large bottom bulkhead opening. **Test fit the motor box and carbon pins in the bulkhead prior to applying 30 minute epoxy.**

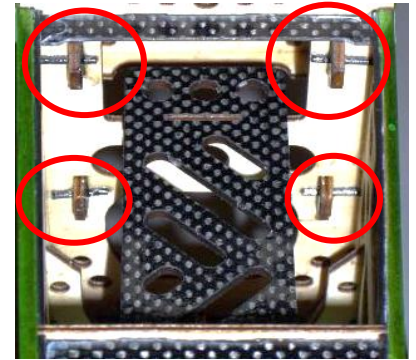
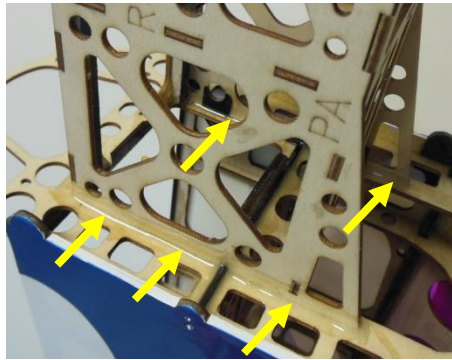
Do not force the motor box into the bulkhead slots. If it is too tight use a fine file to slightly enlarge the slots until a perfect fit is achieved. If the carbon pins are difficult to insert, use a round needle file to slightly enlarge the holes or taper

the pins. Next, gently work the motor box in until it sits **perfectly** flush with the fuselage front bulkhead **without any gap** present. A gap between the motor box and bulkhead will weaken the joints and change the pre-set motor thrust angle so take your time to do it right.

5. Once satisfied with the fit, insert the four CF pins in place. Hold the motorbox firmly against the bulkhead to **eliminate any gap** and apply a few drops of CA to the top and bottom spots (one at a time) to "tack" it in place (see photos). Alternatively, you may use a clamp or zip ties at the top and bottom spots and omit the CA. That will fix the motorbox in place while applying the epoxy. Next, run a thin bead of epoxy along the **entire seam** between the motor box and bulkhead including the CF pins. Use **only epoxy** and make sure you cover the **entire** CF rods. Spot gluing will **NOT** work and will allow excessive flex of the front bulkhead which can cause the motorbox to fail under loads.

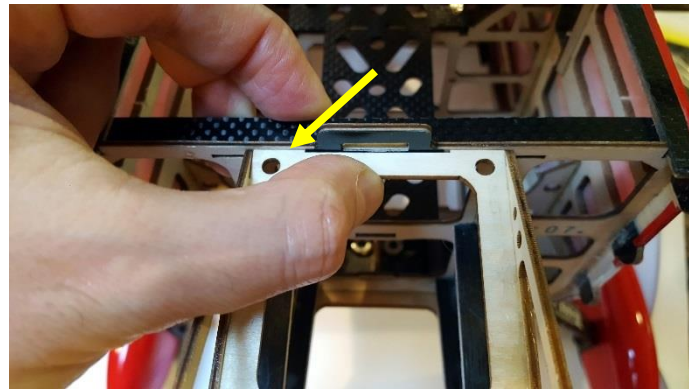
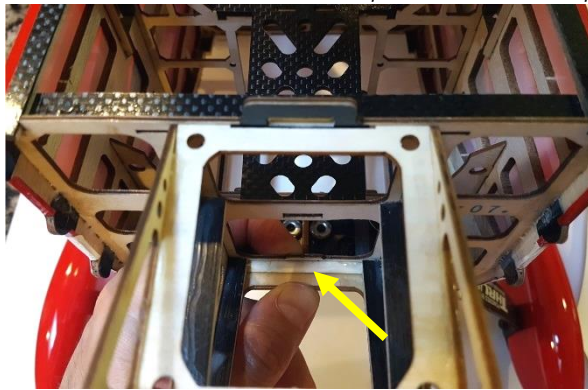


Epoxy **ALL seams** of the motor box with the bulkhead leaving no gap



Glue motor box lugs and CF pins

Some of the photos used in this step were taken from a different PA



Hold the motorbox firmly with your fingers and apply a drop of CA (top and bottom) before applying epoxy

Motor and ESC Installation

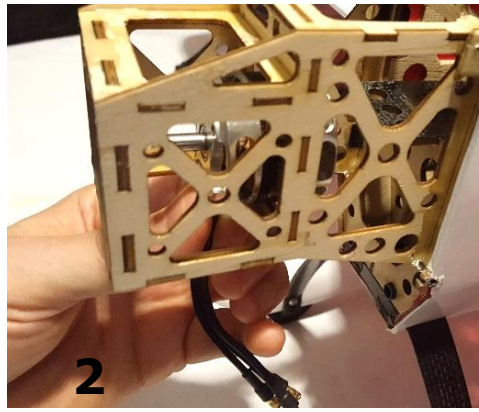
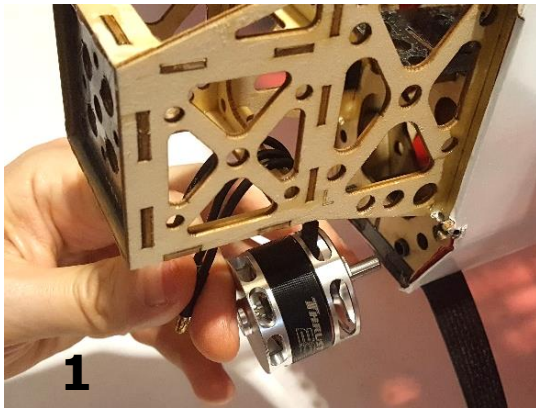
NOTE: Motor shaft C-clip and brass tube **MUST** be removed before installation. **DO NOT** modify the motor box or firewall. Any modification may lead to a motor box failure and will void warranty.

The motor is installed behind the motor box firewall using four bolts and large washers (supplied with your Thrust 25 motor). The large washers are used in front of the firewall to spread the load. **DO NOT under any circumstances enlarge/modify the motor box opening or mounting holes of the motor mount.** The motorbox is pre-drilled to accommodate the Thrust 25 motor, therefore, the installation is easy. Note: if there is any epoxy over the mounting plate that may prevent the motor from sitting flush, scrape it off with a sharp blade as it may result in an incorrect motor thrust angle.

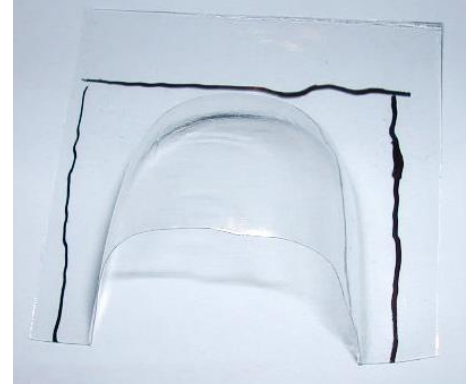
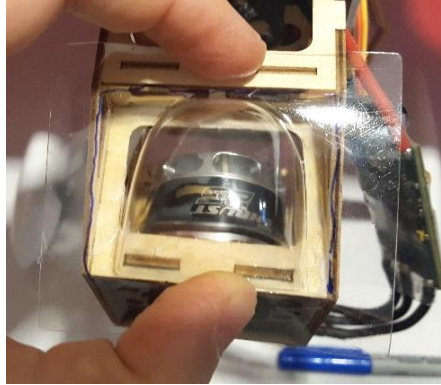
Make sure your motor mounting bolts are 10mm long. Due to the thick laminated mounting plate, shorter bolts may strip the thread and cause the motor box to fail under the extreme thrust and longer may hit the winding.

Caution: Over tightening the four motor mounting bolts may run a risk of crushing or cracking the motor mount plywood thereby weakening it. This increases the likelihood of an in-flight failure. Apply temporary (blue color) Loctite to the bolts and fasten them to a point where the motor sits firmly on the motor mount. Then add a quarter turn clockwise on the bolts to secure them.

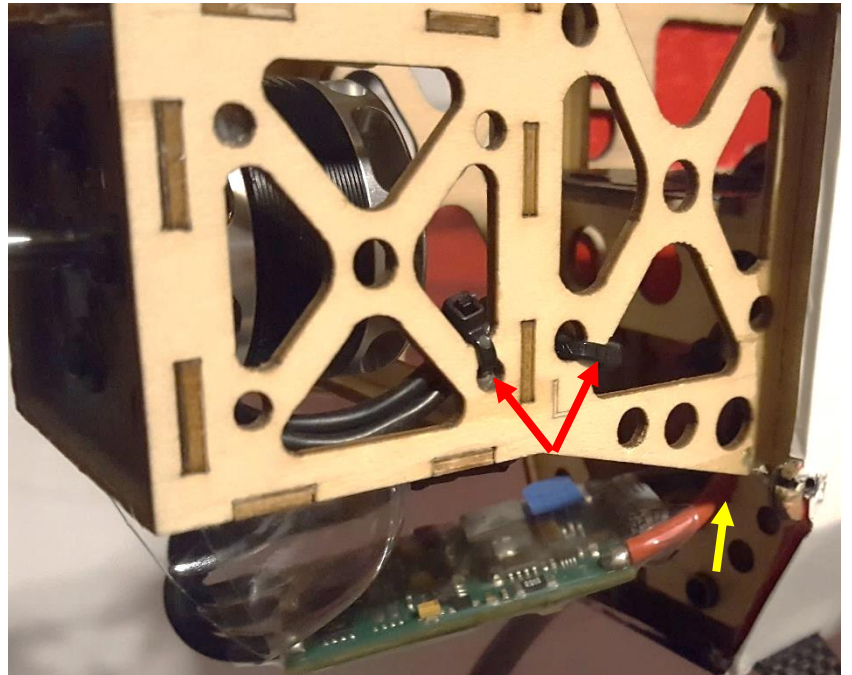
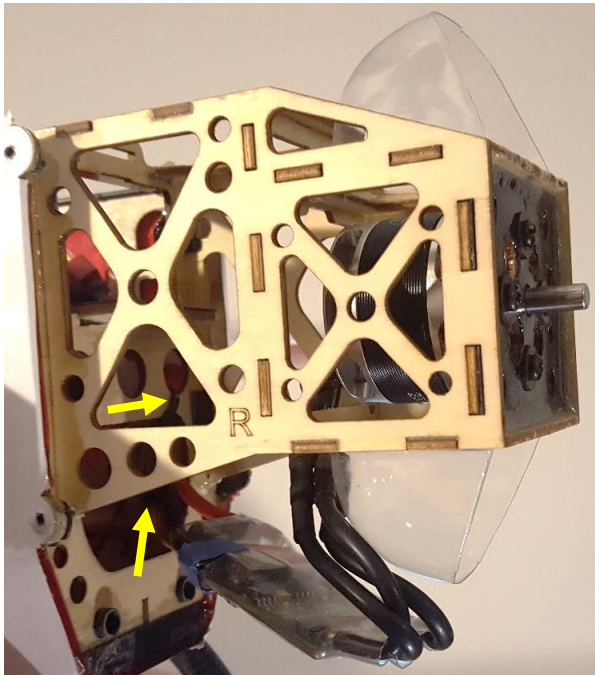
Note: The motor can be inserted into the motorbox only through the bottom rear chamber (feed cables first).



Trim the supplied air scoops with scissors and glue them to the top and bottom sides of the motor box using thick CA or canopy glue to improve airflow to cool the motor/ESC/batteries.



To achieve the correct Center of Gravity, the ESC should be mounted as forwards as possible underneath the motor and air scoop. Use zip ties to fix the ESC cables to the motorbox leaving the ESC dangling. The ESC battery wires can be trimmed as needed and passed through the bulkhead underneath to the battery tray. Connect the three motor plugs to the ESC.



Warning: Our new Quantum 30 Pro ESC has a selectable SBEC voltage output. **Verify** that it is set to fit your servo brand and specs! If using the NXT70-HV servos, set it at 7.4V. **Higher voltage will damage your servos!**

Verify the correct motor rotation direction (should spin clockwise from pilot view). If it doesn't, power down the ESC and swap the positions of any two motor cables or reprogram your Quantum ESC for reversed rotation. Remove the propeller as a safety precaution before powering up the ESC.



Cowling Attachment

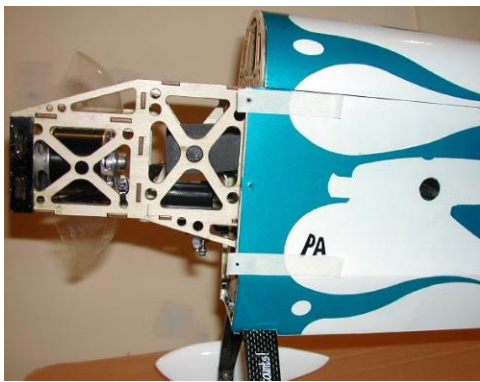
Prior to fitting the cowl, it is required to install the motor and have the hatch fitted to the fuselage.

The fiberglass cowl is attached using four self-tapping screws (2x10mm with soldered washer) screwed into the carbon fiber mounting lugs. Mark the center of the mounting lugs onto pieces of masking tape as shown in photo #1, peel the tape partially back and fit the cowl.

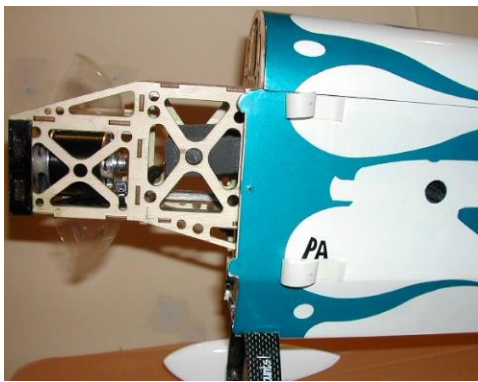
Adjust the cowl with a small overlap past the fuselage front bulkhead (over the hatch) and reasonable gap with the spinner's backplate so it won't rub against the cowl. Install the prop adaptor and spinner backplate then align it perfectly at the center of the cowl front opening (photo #3).

Press down on the top rear section of the cowl to minimize the gap between the hatch and the cowl. When you are happy with the fit, hold the cowl firmly in place using tape and lay the pieces of tape you marked previously back onto the cowl. These markings identify the location of the mounting lugs underneath the cowl, allowing you to drill, using a 1.0-1.2mm (+-3/64") drill bit, through the cowl and into the mounting lugs. After drilling, remove the cowl and screw the four self-tapping screws into the drilled holes in the same manner you did with the wheel pants. You may remove the screws and apply a drop of thin CA into each of the holes to set the thread. Once the CA cured reinstall the cowl.

Tip: If the cowling fits too tight, inspect the inner lip of the cowl for any bulging epoxy and sand it down. It is easier to fit the cowl first with the hatch off, then fit the hatch under the cowl overlap, adjust and continue the procedure of final installation of the cowl.



1 Mark the location to drill



2 Partially peel off sticky tape



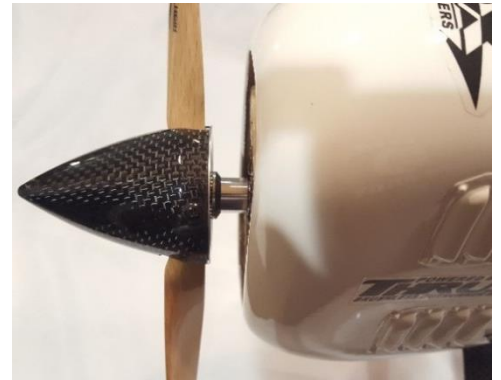
3 Align the cowling



4 Fit cowling and drill



5 Fasten screws



6 Spinner gap

Install the LG cuffs over the LG struts with double sided sticky tape and a drop of CA. Position them as close as possible to the fuselage minimizing any gap. You may trim them with a modeling knife if needed.



Propeller and Spinner installation

At this stage mount the propeller and if you are using a spinner, mount the cone as well. We recommend using the pre-cut 1.8" lightweight PA Carbon Fiber spinner (PA code # AC-2048) that perfectly matches the Addiction cowl shape, to retain optimum CG and avoid carrying unnecessary weight.

Note: While fastening the propeller nut, hold the prop and spinner backplate firmly by hand to prevent it from slipping. Don't use tools as you might deform it.

Note: It is important to accurately balance your propeller prior to installation as poorly balanced propellers are inefficient and cause vibrations which are detrimental to your model and motor. Use only propellers that are adequately sized to be within the specified limits of your motor.

If your Vox prop fits tight (we keep a tight tolerance for accuracy) use a fine round file (smaller diameter than the hub center hole) to very slightly file it all around and test fit it. It should fit snug.

APC propellers are not recommended for the Addiction due to the higher amps drawn and vibration which can lead to a motorbox failure or damage to your gear.

If your CF spinner cone wobbles while spinning, it is more likely that the cone is not sitting flush with the backplate. There are a few potential causes for this:

1. The mounting bolts compromise the flush fit. In this case, use a fine rounded file to slightly file the holes in an oval shape towards the front of the cone. Filing towards the rear will weaken the cone.
2. The prop blade openings are undersized and make contact with the propeller. Enlarge the openings with a file to allow an even gap around the propeller.
3. Bulging epoxy on the inner lip which should be sanded down



If the above were done and the cone still wobbles, unfasten the bolts and rotate the cone 180 degrees and re-fasten it. For a fine adjustment you may unfasten one bolt, counter adjust the cone and re-fasten.

Receiver and battery Placement

Use the installed Velcro or foamed double sided sticky tape to secure the RX on its tray. If you are using a 2.4GHz RX with twin receivers, mount the second RX away from the main RX at the inner side of the fuselage using rubberized or foam double sided sticky tape. Secure RX plugs well to avoid 2.4GHz reboots.

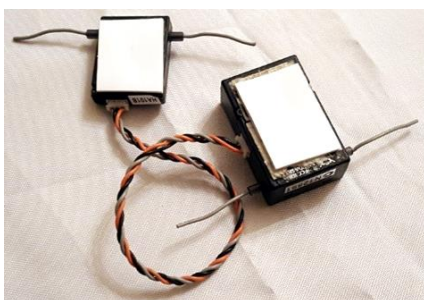
Note: Use only a high-quality reliable receiver.

The battery is held in place on the battery tray using the supplied Velcro strap (there are small protrusions on the underside of the battery tray to prevent the Velcro from sliding back and forward). To prevent the battery from sliding on the CF tray you can stick a small piece of foamed double sided sticky tape underneath the battery and place a piece of rubber foam on the top of the battery, then wrap and fix it with the Velcro. To avoid the battery from sticking to the CF tray, "weaken" the adhesive by sticking some dust to it.

Another two ways to prevent the battery from sliding would be: A. cut two pieces of Velcro (only from the plastic hook type) and stick one underneath the pack and one on the tray itself. Then wrap and strap it down with the Velcro and foam as above. B. wrap a thick rubber band over your battery and continue as the above. You may wish to trim the battery wires to reduce weight.

Tip: Once you set up the exact CG per the manual, use a piece of sticky tape or a marker to mark the position of the batteries (rear end) as a reference point when swapping packs between flights.

Make sure the hatch is fitted properly before takeoff. The battery Velcro strap or cables might get compressed with the hatch forcing an ejection during flight. Also, if you are a high speed/energy flyer, it's recommended to use a small piece of sticky tape over the rear top canopy as precaution.



Thick double sided Sticky tape





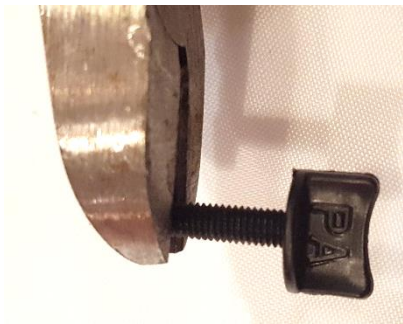
Spektrum 2.4GHz receiver installation



Battery pack

Wing Attachment

Cut short each of the two nylon wing bolts so that 12mm (1/2") of thread remains (slightly bevel the cut end with a sharp modeling knife to ease the fitting). Shortening the bolts will make the fastening in the narrow fuselage a lot easier and faster.



Note: Due to the manufacturing tolerance of the CF wing tube and sleeves, you may experience a tight fit with difficulty sliding the wing onto the wing tube. Tight fit may create a bit of a gap between the wing root and the fuselage. In a case of a tight fit slightly sand the CF wing tube with fine sandpaper, wipe off the carbon dust using a wet paper towel and test fit again. Repeat this process until you obtain a perfect fit.

Do not attempt to force the wings onto the wing tube as this may cause damage.

The wings must initially be installed in this sequence: First insert the CF wing tube all the way into the sleeve of one wing panel until it reaches the stopper. Next fit the wing to the fuselage, taking care to align the CF anti-rotation pin when about to insert it into the fuselage. If resistance is felt, do not attempt to force the pin in. Instead, remove the wing and lightly file the ends of the anti-rotation pins (taper it). Avoid enlarging the receptacle hole in the fuselage as loose fit may result in incorrect wing incidence.

Prior to installing the nylon wing bolt, dip the tip of the bolt into some silicone grease to add lubrication (otherwise the bolt may have tight fit and could shear off if excessive force is exerted). If, for any reason the bolt still feels tight to fit, do not force as there could be dirt or corrosion build up on the threads of the blind nut. Instead, remove the bolt and fasten a 4.0mm metal bolt to "clear" the blind nut threads. Secure the wing in place with the nylon wing bolt but don't over tighten the bolt and take care not to cross thread the bolt.

Next install the other wing panel onto the CF wing tube. If for the reasons below (*) there is a gap between the wing and the fuselage, remove the wing and carefully sand short one end of the CF tube slightly and refit the wing. Do not attempt to force the wing onto the wing tube. Secure the wing in place with the other nylon wing bolt.

Note: If the wing panels have a tight fit over the wing tube then chances are high for a gap between the wing roots and the fuselage. If so lightly sand down the wing tube to allow an easy fit which will correct it.

In order to fit the aileron servo leads into the fuselage, small openings are required to be cut open in the covering. These openings should be slightly larger than the lead plugs and should be next to the RX. Slide the wing panels onto the wing tube close to the fuselage to estimate the location of where to cut. Mark the spots and cut with a sharp blade or a heated paper clip as you did with the servo openings. Feed the leads into the fuselage and slide the wing panels tight to the fuselage.

Center of Gravity (CG)

The Addiction V2 was designed with a very narrow CG range to attain the best flight performance. Using the iPA's® setup we have listed; you should end up with a center of gravity very close to the ideal position. Fine adjustments should be made by sliding the battery fore or aft on the battery tray (and even all the way into the cowl). It is **very important**, regardless of chosen setup, to check your model's center of gravity (on the bench) as accurately as possible as any small deviation will dramatically affect the flight performance. Setting the CG precisely is one of the crucial points to have a good flying plane. Take your time to set it right.

NOTE: While setting up the CG, the plane should be placed upright with **ALL** the gear installed including wheel pants, hatch, prop and spinner.

The Addiction V2 is an excellent high-speed sport and 3D performer; therefore, in order to achieve the best of both worlds we spent many hours testing the CG to find the "sweet spot" that offers a peak in overall performance. We found the "sweet spot" CG with the optional Vortex Generators installed (item code #AC-1914) to be the fine line which allows a good blend of both precision and 3D. With this CG the plane is neutral and axial with no KE coupling.

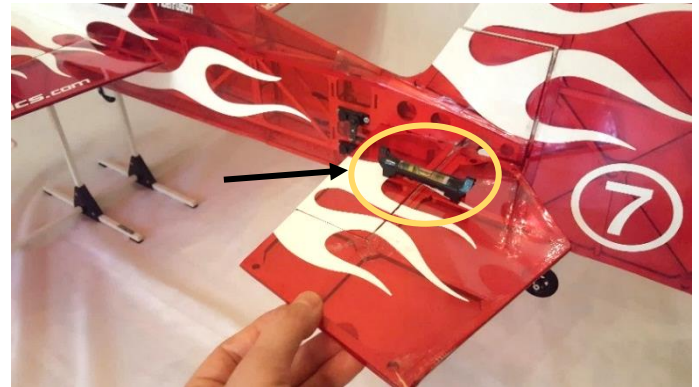
If you find the plane too neutral for you or it's a windy day, you may choose to set it **slightly** forward as it offers a better wind penetration in windier condition and will feel like it "flies on rails". Once you get used to the plane try the "sweet spot" to get better overall performance.

The CG "sweet spot" is 112mm measured aft from the leading edge at the wing root.

Tip: CG machine such as the Multiplex CG gauge is highly recommended to obtain an accurate set-up. The fingers method is far from being precise. Place your plane on the CG machine and hold a micro spirit level above the stabilizer while supporting the tail from underneath with your hand. Do not rest the spirit level on the stabilizer, use it only as a guide. Remove the spirit level and slowly move away your hand while observing the tail.

If it drops/lifts it means the tail was not leveled. Adjust the battery position on the tray until the tail remains still when you take your hand away. Adjust the battery position on the CF tray and into the cowl (even all the way in) until you reach the desired 112mm CG.

NOTE: Maximum forward battery position is when it is fully slid into the cowl up to the motorbox former



Level the tail with a micro spirit level



Remove the spirit level and watch the tail

Transmitter Setup

As precaution, remove **all servo arms and propeller prior to initially powering up your radio system**. This prevents servos that may be initially reversed or off center to rotate beyond the control surface's deflection angles and motor to accidentally start up. Once powered up reset servos to neutral and reinstall the servo arms. Move TX sticks to verify that the control surfaces are moving in the intended directions and if not reverse rotation via the TX.

With all the channels verified, adjust the sub-trim to obtain the neutral position for all control surfaces. If you have followed the control linkage set up in the earlier sections, the sub-trims will be very minimal. Adjust the servos travel to ensure none of the servos are over traveling causing binding in the linkages.

Note that binding linkages will overload the servos which will overheat the BEC and risk a possible shutdown.

Warning: Servos should **NOT** be operated manually, especially, not the mini/micro ones as they use small gears with small teeth. Those can jam and damage if operated manually. We keep very tight tolerances with our servos in order to keep them precise, therefore, the gear mesh is tight. Please operate servos only via TX.

Control Setup

Using the supplied deflection gauge, we suggest setting up your control surfaces deflection in accordance with the following table. Use these as a starting point and adjust them to suit your personal flying preferences.

All the figures in this table are approximated		
Control surface	High rates	Low rates
Ailerons	Approx 45° Up and Down Expo: 60%	15° Up and Down Expo: 30%
Rudder	Left and Right (maximum) Expo: 60%	25° Left and Right Expo: 35%
Elevator	50°-55° Up and Down Expo: 60%	15° Up and Down Expo: 35%



Optional Spoilerons: Set 10°-12° of UP and Down ailerons deflection on a 3-position switch such as flaps switch. The center position of the switch is where the ailerons are neutral/0°. Upward deflection of the ailerons, in accordance to the plane's position, (i.e. Spoilerons) will allow faster descending "Elevators", spins and slower high AOA harriers. Spoilerons were great for elevators and harriers since they allowed higher propeller rpm which kept the plane more flat (during the elevator) and made high AOA harriers slower and more stable.

Ailerons/Elevator mix: Set up a TX mix of which both ailerons and elevator deflect fully to the same direction. Assign a convenient switch to enable/disable it during flight. This mix in the Addiction V2 is pure fun for tight waterfalls, super tight loops and fast KE spins.

Maiden Flight

THE Maiden flight! It is vital that you choose a proper day for the maiden flight. The combination being nervous flying a new plane along with the fact you are not familiar with the plane can lead to mishaps. Choose a good calm non-gusty day (about 0-8 MPH/knots wind). It may be early morning or late evening.

It is vital to run some good bench tests (outdoor) pointing the propeller away from you or anybody around and blip the throttle from min to max power a few times. This is a harsh test that will apply a lot of load but will verify the prop adaptor is firmly installed (otherwise it may fly off), gear is working properly and the propeller is balanced (no vibrations!!).

NOTE: ALL new gear **must** be tested on the bench/ground before take-off with no exceptions. Check servos and linkages for proper movement at the same time.

Applying the Decals

Small wrinkles in the covering can be removed with a hobby iron set at low temperature, however, **extreme care must be taken**, as it is possible to introduce warp to an otherwise straight part while removing wrinkles therefore, I suggest to avoid it. Do **NOT** use a heat gun as it will cause warp and may damage the thin covering trims.

NOTE: Bottom wing square trims are made of high-quality vinyl. Do not apply heat as you may damage it.

As a final touch, decorate your Addiction V2 using the supplied PA decals. You may use the following photos as a guide.



Thin edges of covering trim tend to peel off over time. I strongly suggest to apply small pieces of clear tape over these sharp edges to secure them in place. If the bottom wing white vinyl edges are slightly peeling off (hinge gap), fully deflect the aileron, tuck it down and apply thin clear tape over the hinge gap and the edges. It's important to do this while fully deflected as not to restrict the aileron movement after the tape is applied.



Carbon Fiber Vortex Generators (VG) installation

If you purchased the optional CF Vortex Generators (PA Item code # AC-1914) designed for the Addiction V2, you can install them now. The CNC machined CF Vortex Generators will enhance your Addiction V2 flight characteristics in slow high AOA flight, 3D and Knife Edge tracking and will add the funky look to your plane. We highly recommend them to complete the aerodynamic design of the Addiction V2 in order to get the best performance. More info about the VGs can be found on www.PrecisionAerobatics.com

The installation of the Vortex Generators (VGs) is very simple since the slots are pre-cut.

- 1- Start by placing the wing flat on a protected surface to avoid scratches to the covering.
- 2- Use a heated paperclip or a sharp modelling knife to reveal the pre-cut slots on both sides of the wing.
In order to locate the slots of the small VGs through the opaque covering, plug in the LED lights to a battery.
Note: The rear end of the wing tip VGs must not protrude the wing's trailing edge.
- 3- Roughen the gluing tabs of all the VGs using a fine file or sand paper similar to what you did previously with the control horns.
- 4- Perform a dry test fit of the VGs into the slots and if you find a very tight fit DO NOT force them in as you may damage the balsa sheeting. Instead, do one of the two things: 1 – you may slightly sand the tabs thinner or 2- use a sharp modelling knife to slightly enlarge the slots. Do this with great care not to cause damage.
- 5- Once you are satisfied with the fit remove them and apply a layer of 30 minute epoxy on both sides of the tabs, and inside each slot. Make sure the entire base of the VGs are covered with epoxy and once fitted, add a small bead of epoxy along the entire joint as this will create a solid base and seal the gap with the wing skin. Make sure to push them all the way in to minimize any gap.
- 6- Now verify from the front of the leading edge that each VG is perfectly perpendicular to the wing surface (90 degrees) and if not use paper masking tape to correct the angle into a perfect 90 degrees and let it set before removing the tape.



DO NOT use CA as it is not forgiving and will not allow you enough time to fit the VGs properly and verify their angle. CA may set before the VGs are fitted all the way in which means a permanent damage. It will also not seal the gap and may stain the covering surface.

Note: Keep plane under cover and away from direct sunlight when not flown. That is to avoid the covering from fading, damage to canopy, wrinkles and warp of parts. Do not keep it in the car or garage as temperature rises affect the plane.



Addiction Replacement parts list

We believe that you will enjoy your Addiction for a very long time. In the event of inevitable mishaps and broken parts, all you need to do is to order replacement spare parts to restore your Addiction and be back in the air.

AC-1999	1.5" CF spinner with CNC machined back plate
AC-2017	PA Lightweight Main Wheels
AC-2019	PA Light weight tail wheel assembly
AC-2027	PA A5 sticker sheet
AC-1969	Addiction Tinted canopy and hatch
AC-1970	Addiction Fiberglass cowl
AC-1652	Translucent yellow covering 60x200cm roll
AC-1651	Translucent red covering 60x200cm roll
AC-1915	Translucent Green covering 60x200cm roll
AC-1660	Translucent Blue covering 60x200cm roll
AC-1971	Addiction Fiberglass wheel pants set
AC-1972	Addiction Carbon fiber wing tube

AC-1974	Addiction Motor cage complete glued
AC-1975	Addiction Carbon fiber control horns - 4pc
AC-1977	Mini size Carbon Fiber wheel pants set
AC-1993	Addiction Fuselage
AC-1994	Addiction Tail Set Rudder Elevator
AC-1995	Addiction left wing (Pilots Left)
AC-1996	Addiction right wing (Pilots Right)
AC-1997	Addiction wing Set
AC-1967	Addiction Carbon fiber main landing gear (2pc)
AC-1913	Carbon fiber MD size long servo arms - 4pc
AC-1943	MD size air scoops set

Optional Extras

PA Carbon Fiber 1.5" custom CNC machined spinner (PA Item # AC-1999)

The PA 1.5" carbon fiber spinner is a perfect match to complete the fuselage shape and enhance the aerodynamics of your Addiction. The combination of precision CNC machined Aluminum back plate and our German made precision prop adapter allows true spinning without motor's performance deterioration.

The new CF spinner is incredibly lightweight and has a beautiful shiny finish.

Note that the prop adapter is not included with the spinner. We DO NOT recommend using a poor quality prop adapter, such as those supplied with most motors available on the market. Poor machining results in un-centered spinning and excessive vibrations which will affect the motor efficiency and performance, and may in the long run cause damage to the spinner cone and wear out your motor's ball bearings.



All spinners are tested in our facility (using our German made prop adaptor) to verify they spin centered and true before shipped.

Carbon fiber MD size long servo arms for perfect linkage geometry. (PA Item # AC-1913)

Set of 4 Carbon Fiber servo arms specifically designed to achieve full control surface movement required for 3D flights with the correct linkage geometry to fit the Addiction.

- Snap installation
- No glue required
- Total weight including hardware 0.4g only!
- Best solution for maximum throw in 3D models
- CF woven awesome look!
- Hardware and instruction are included
- Accurately CNC machined in our facility



Mini size CF Wheel Pants Set (PA Item # AC-1977)

Stiffer than fiberglass these carbon fiber wheel pants gives your model the final touch of PA **FiberFusion®** and last longer. High polished finish.



EP propeller protection bag (PA Item # AC-2151)

Wooden propellers are not cheap. Protect them from damage in transport using this high quality double foam prop guard. You'll find this small investment extremely worthwhile. Our propeller guards are made of the same strong material as our wing bags and are designed for 12 to 16 inch propeller.



THRUST®

PA Thrust motors - High Performance

Brushless Out-Runners with RotorKool® Technology

The development of our new PA Thrust® motors has followed our traditional design philosophy employed in our aircraft; which is doing things better.

Thrust® motor is one of the coolest running high performance, high-torque and high efficiency brushless motor ever produced to date. The design incorporates our latest innovation, RotorKool® which keeps the stator core material, the low resistance windings, highly permeable stator plates, high quality NMB Japan triple bearings and powerful neodymium magnets at optimum operating temperatures regardless of duration or the number of consecutive flights made*.

*provided sufficient airflow is permitted.

Visit www.Thrustmotors.com to download data sheets | **2 years warranty** for all Thrust motors and Quantum ESC!



www.VoxProps.com



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These must be the best Electric wooden propellers out there!

Vox electric propellers are made of Ultra light, high quality German Beechwood allowing higher acceleration rate and thrust, combined with precision, which is a "MUST" for high performance airframes, and is an added bonus for the less demanding EP R/C aircraft.

Vox props have been thoroughly tested as part of our iPA's® packages and feature GREAT value for money!

If you want your plane to perform like the ones in our videos get a Vox prop!

The PA Quantum is a performance enhanced Brushless Electronic Speed Controller specifically designed to seamlessly match our Thrust motors.

The ESC come pre programmed for the Thrust motors so it's only a matter of plug-and-play.

The Quantum ESC is only geared for one thing: to allow you to execute the most challenging maneuvers with ABSOLUTE confidence in your drive system. Visit our website for more details and discounted combos.

ALL ESCS are equipped with user selectable HV SBEC.

