Ultra Stick 25e

E-flite®

Assembly Manual

Available from: www.modelflight.com.au

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Introduction

Thank you for purchasing the Ultra Stick 25e. Designed from the beginning for electric power, the Ultra Stick 25e is developed from the popular Hangar 9® Ultra Stick™ series of aircraft. You will find most all of the hard work completed for you. All flight control surfaces, control horns, wheels, and other necessary items required to speed up the building time have been installed at the factory. You will find two sets of mounting holes on the firewall to mount your choice of either the Power 25 or 32 Outrunner motors. An additional aluminum float mount is included if you wish to fly with the optional 25-size Fiberglass floats (EFLA500A). The Power 32 is recommended if you wish to fly with the floats. This is to help maintain the CG required for flight. If you wish to use the Quad Flap option you will need to use a receiver battery to power the radio as the BEC unit in most speed controls can only power 4 servos. All necessary control linkage hardware is included for the Quad Flap option if you choose to install it.

Specifications

Wingspan:	50 in (127cm)
Length:	41.5 in (105cm)
Wing Area:	480 sq in (31 sq dm)
Weight w/o Battery:	2.6 lb (1.2 kg)
Weight w/ Battery:	3.4 lb (1.5 kg)

Using the Manual

This manual is divided into sections to help make assembly easier to understand, and to provide breaks between each major section. In addition, check boxes have been placed next to each step to keep track of each step completed. Steps with a single circle ( ) are performed once, while steps with two circles ( ) indicate that the step will require repeating, such as for a right or left wing panel, two servos, etc.

Remember to take your time and follow the directions.

Contents of Kit/Parts Layout

Large Replacement Parts:

EFL4026	Wing w/Ailerons
EFL4027	Fuselage
EFL4028	Tail Set
EFL4029	Landing Gear w/Wheels

Small Replacement Parts

EFL4030	Pushrod Set
EFLA213	E-flite/JR/Horizon Decals

Required Radio Equipment

You will need a minimum 4-channel transmitter, crystals, micro receiver, and four mini servos. You can choose to purchase a complete radio system that includes all of these items or, if you are using an existing transmitter, just purchase the other required equipment separately.

You may wish to install the optional quad flaps, in which case you will need a 7-channel radio and receiver on 72MHz with mixing and six mini servos.

JSP30600	RS600 6-Channel Universal FM Rx w/o Crystal
JRPXFR**	FM Receiver Crystal
JSP98110	6" Servo Extension (2)
JSP20040	MN48 Mini Servo (4)
JSP98020	Y-harness, standard 6"

Optional Quad Flaps

JRPB4041	Extra Rx Pack 600mAh 4.8V Square
JSP98010	Standard Switch
JSP20040	MN48 Mini Servo (2)
JSP98120	18" Servo Extension (2)

Important Information About Motor Selection

The Ultra Stick 25e does not include a propeller. We are recommending the Power 25 or Power 32 outrunner motors. This will provide you with excellent aerobatic power for sport pilots and a worry-free outrunner motor.

Sport Outrunner Setup

EFLM4025A	Power 25 BL Outrunner, 870Kv
EFLA312B	40-Amp Brushless ESC (v2) THP42003S2PPL 4200mAh 3S2P 11.1V Li-Po, 13GA *or*
EFLB4010	10-cell 1800mAh Ni-MH
APC12060E	Electric Propeller, 12x6E
EFLC3005	Celectra 1-3 cell Li-Po Charger
EFLAEC303	EC3 Dev & Batt, Male/Female

This is a sport flyer setup for smooth and stable flights.

Optional Accessories

EFLA110	Power Meter
HAN172	Hangar 9 Digital Servo and Rx Current Meter

Available from: www.modelflight.com.au

High Power Setup

EFLM4032A	Power 32 BL Outrunner, 770Kv
CSEPHX45	45-Amp Brushless ESC (depending on propeller used)
CSEPHX60	60-Amp Brushless ESC (depending on prop used)
THP42002S2PPL	4200mAh 2S2P 7.4V Li-Po, 13GA (2 req in series for 14.4V)
APC11070E	Electric Propeller, 11x7E
APC11055E	Electric Propeller, 11x5.5E
EFLC3005	Celectra 1 - 3 cell Li-Po Charger
EFLAEC303	EC3 Dev & Batt, Male/Female

This is a high power setup for very strong flight performance and float flying.

Warning

An RC aircraft is not a toy! If misused, it can cause serious bodily harm and damage to property. Fly only in open areas, preferably at AMA (Academy of Model Aeronautics) approved flying sites, following all instructions included with your radio.

Keep loose items that can get entangled in the propeller away from the prop, including loose clothing, or other objects such as pencils and screwdrivers. Especially keep your hands away from the propeller.

Required Tools and Adhesives

Tools & Equipment

EFLA250	Park Flyer Tool Assortment, 5-piece

Or Purchase Separately

EFLA257	Screwdriver, #0 Phillips (or included with EFLA250)
EFLA251	Hex Wrench: 3/32", 7/64" (or included with EFLA250)

Nut driver: 1/4"
Drill
Drill bit: 1/16" (1.5mm), 5/64" (2mm),
Hobby knife
Felt-tipped pen
Pliers

Note Regarding Hinges

For your convenience and to speed the assembly process, the hinges have already been installed and glued. We suggest that you take a minute before beginning assembly of your model to check them.

Grasp the wing and aileron at each hinge location, then gently pull on the aileron to ensure the hinges are secure and cannot easily be pulled away from either surface. Use caution when gripping the wing and aileron to avoid crushing or damaging the structure. Repeat this process for the elevator and rudder.

If however, you find that the hinges pull away, simply wick thin CA into the hinge slots and reinstall the hinges/ surfaces.

Note on Lithium Polymer Batteries

Lithium Polymer batteries are significantly more volatile than alkaline or Ni-Cd/ Ni-MH batteries used in RC applications. All manufacturer's instructions and warnings must be followed closely. Mishandling of Li-Po batteries can result in fire. Always follow the manufacturer's instructions when disposing of Lithium Polymer batteries.

Limited Warranty Period

Horizon Hobby, Inc. guarantees this product to be free from defects in both material and workmanship at the date of purchase.

Limited Warranty & Limits of Liability

Pursuant to this Limited Warranty, Horizon Hobby, Inc. will, at its option, (i) repair or (ii) replace, any product determined by Horizon Hobby, Inc. to be defective. In the event of a defect, these are your exclusive remedies.

This warranty does not cover cosmetic damage or damage due to acts of God, accident, misuse, abuse, negligence, commercial use, or modification of or to any part of the product. This warranty does not cover damage due to improper installation, operation, maintenance, or attempted repair by anyone other than an authorized Horizon Hobby, Inc. service center. This warranty is limited to the original purchaser and is not transferable. In no case shall Horizon Hobby's liability exceed the original cost of the purchased product and will not cover consequential, incidental or collateral damage. Horizon Hobby, Inc. reserves the right to inspect any and all equipment involved in a warranty claim. Repair or replacement decisions are at the sole discretion of Horizon Hobby, Inc. Further, Horizon Hobby reserves the right to change or modify this warranty without notice.

REPAIR OR REPLACEMENT AS PROVIDED UNDER THIS WARRANTY IS THE EXCLUSIVE REMEDY OF THE CONSUMER. HORIZON HOBBY, INC. SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES.

As Horizon Hobby, Inc. has no control over use, setup, final assembly, modification or misuse, no liability shall be assumed nor accepted for any resulting damage or injury. By the act of use, setup or assembly, the user accepts all resulting liability.

If you as the purchaser or user are not prepared to accept the liability associated with the use of this product, you are advised to return this product immediately in new and unused condition to the place of purchase.

Safety Precautions

This is a sophisticated hobby product and not a toy. It must be operated with caution and common sense and requires some basic mechanical ability. Failure to operate this product in a safe and responsible manner could result in injury or damage to the product or other property. This product is not intended for use by children without direct adult supervision.

The product manual contains instructions for safety, operation and maintenance. It is essential to read and follow all the instructions and warnings in the manual, prior to assembly, setup or use, in order to operate correctly and avoid damage or injury.

Questions, Assistance, and Repairs

Your local hobby store and/or place of purchase cannot provide warranty support or repair. Once assembly, setup or use of the product has been started, you must contact Horizon Hobby, Inc. directly. This will enable Horizon to better answer your questions and service you in the event that you may need any assistance.

Questions or Assistance

For questions or assistance, please direct your email to productsupport@horizonhobby.com, or call 877.504.0233 toll-free to speak to a service technician.

Inspection or Repairs

If your product needs to be inspected or repaired, please call for a Return Merchandise Authorization (RMA). Pack the product securely using a shipping carton. Please note that original boxes may be included, but are not designed to withstand the rigors of shipping without additional protection. Ship via a carrier that provides tracking and insurance for lost or damaged parcels, as Horizon Hobby, Inc. is not responsible for merchandise until it arrives and is accepted at our facility. Include your complete name, address, phone number where you can be reached during business days, RMA number, and a brief summary of the problem. Be sure your name, address, and RMA number are clearly written on the shipping carton.

Warranty Inspection and Repairs

To receive warranty service, you must include your original sales receipt verifying the proof-of-purchase date. Providing warranty conditions have been met, your product will be repaired or replaced free of charge. Repair or replacement decisions are at the sole discretion of Horizon Hobby.

Non-Warranty Repairs

Should your repair not be covered by warranty and the expense exceeds 50% of the retail purchase cost, you will be provided with an estimate advising you of your options. You will be billed for any return freight for non-warranty repairs. Please advise us of your preferred method of payment. Horizon Hobby accepts money orders and cashiers checks, as well as Visa, MasterCard, American Express, and Discover cards. If you choose to pay by credit card, please include your credit card number and expiration date. Any repair left unpaid or unclaimed after 90 days will be considered abandoned and will be disposed of accordingly.

Electronics and engines requiring inspection or repair should be shipped to the following address (freight prepaid):

Horizon Service Center
4105 Fieldstone Road
Champaign, Illinois 61822

All other products requiring inspection or repair should be shipped to the following address (freight prepaid):

Horizon Product Support
4105 Fieldstone Road
Champaign, Illinois 61822

Safety, Precautions, and Warnings

As the user of this product, you are solely responsible for operating it in a manner that does not endanger yourself and others or result in damage to the product or the property of others.

Carefully follow the directions and warnings for this and any optional support equipment (chargers, rechargeable battery packs, etc.) that you use.

This model is controlled by a radio signal that is subject to interference from many sources outside your control. This interference can cause momentary loss of control so it is necessary to always keep a safe distance in all directions around your model, as this margin will help to avoid collisions or injury.

- Always operate your model in an open area away from cars, traffic, or people.
- Avoid operating your model in the street where injury or damage can occur.
- Never operate the model out into the street or populated areas for any reason.
- Never operate your model with low transmitter batteries.
- Carefully follow the directions and warnings for this and any optional support equipment (chargers, rechargeable battery packs, etc.) that you use.
- Keep all chemicals, small parts and anything electrical out of the reach of children.
- Moisture causes damage to electronics. Avoid water exposure to all equipment not specifically designed and protected for this purpose.

Landing Gear Installation

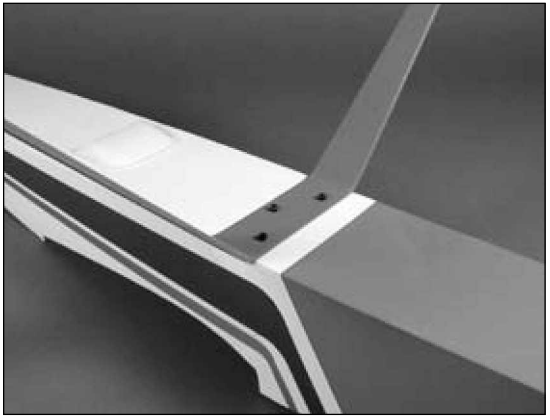
Required Parts

- Fuselage
- Landing gear assembly with wheels
- 4-40 x 1/2" socket head screw (3)

Required Tools

- Hex wrench: 3/32"

1. Locate the landing gear assembly. Attach the landing gear assembly to the fuselage using three 4-40 x 1/2" socket head screws.



Note:.The.landing.gear.will.only.fit.one.direction.for.the.holes.to.line.up.properly.

Motor Installation

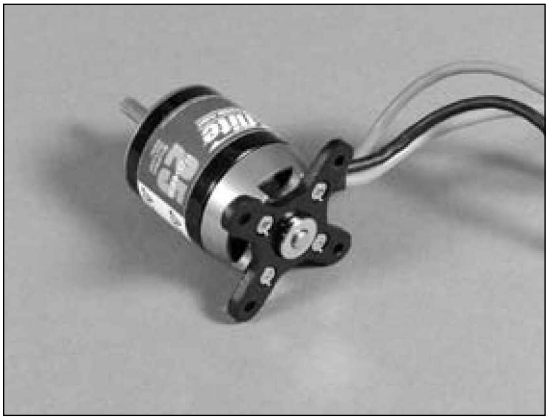
Required Parts

- Fuselage
- Brushless motor
- Brushless speed control
- 4-40 x 3/8" socket head screw (4)
- Prop adapter
- Propeller
- 4-40 blind nut (4)

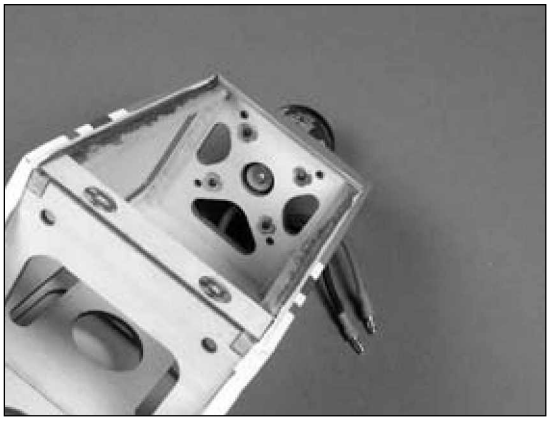
Required Tools and Adhesives

- Hex wrench: 3/32"
  Note:.There.are.two.sets.of.holes.in.the. firewall..The.outer.set.of.holes.is.used.to.mount. the.Power.32.motor,.while.the.inner.holes.are. used.for.mounting.the.Power.25.motor..Use.the. appropriate.holes.for.your.motor.

1. It may be necessary to attach the motor mount or other accessories to your particular motor at this time.



2. Place the four 4-40 blind nuts on the inside of the firewall in the locations for your particular motor. Attach the Outrunner motor to the front of the firewall using four 4-40 x 3/8" socket head screws.



Important Information About Your Brushless ESC

Make sure your ESC brake is programmed to Off. Also, be sure to use an ESC with the proper 9V cutoff when using 3-cell Li-Po packs, and 12V cutoff when using 4-cell Li-Po packs.

3. Connect the ESC to the motor and secure it to the inside of the fuselage using hook and loop material. Actual ESC location may vary.

Note:.It.is.wise.to.place.a.current.meter.in.line. with.the.ESC.to.check.for.current.draw.during. full.servo.operation..Please.see.page.29.for. further.details.

4. Slide the propeller adapter onto the motor. Place the propeller onto the adapter, then a spinner cone onto the adapter and secure.

Note:.It.is.very.important.that.you.check.to.be. sure.the.propeller.is.balanced.before.installing. onto.the.shaft..An.unbalanced.propeller.will. cause.performance.issues.

Tail Installation

Required Parts

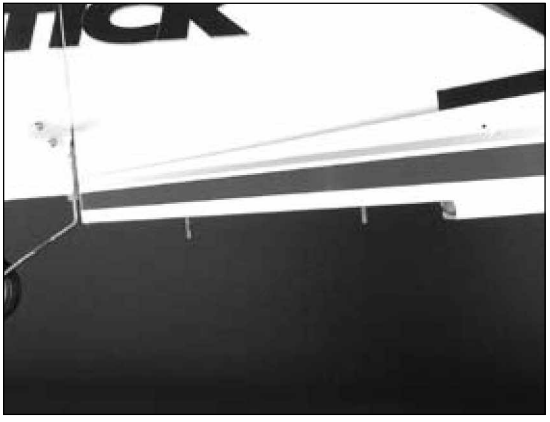
- Fuselage
- Rudder/Fin
- Stabilizer/Elevator
- 3mm locknut (2)
- 3mm washer (2)

Required Tools and Adhesives

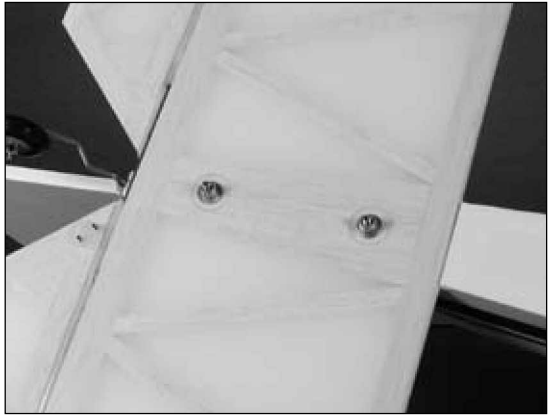
- Nut driver: 1/4"

  Note:.Before.installing.the.tail,.check.to. make.sure.the.hinges.are.glued.securely.by. gently.pulling.on.the.two.surfaces..If.they.are. not.glued.securely,.apply.thin.CA.to.both. sides.of.the.hinge.to.secure.them..Do.not. use.accelerator..The.CA.must.be.allowed.to. soak.into.the.hinge.to.provide.the.best.bond. between.the.hinge.and.surrounding.wood.

1. Slide the rudder into position on the fuselage. The threaded rods extend through the bottom of the fuselage.



2. Attach the stabilizer using two 3mm washers and two 3mm locknuts. Do not tighten the locknuts all the way until after the wing is installed and you check the alignment.



Note:.The.tail.section.is.removable.for.easy. transporting.if.needed.

Wing Preparation

Required Parts

- Wing
- 6-channel receiver
- Servo w/hardware (2)
- Servo extension, 6" (2)
- Clevis (2)
- Pushrod connector (2)
- 5 5/8" (143mm) pushrod wire (2)

Required Tools and Adhesives

- Drill
- Drill bit: 1/16" (1.5mm), 5/64" (2mm)
- Screwdriver, #0 Phillips
- Pliers

Note:.For.the.optional.Quad.Flap.modification,. please.refer.to.information.on.Page.20.

Note:.Check.to.make.sure.the.aileron.hinges. are.glued.securely.by.gently.pulling.on.the.two. surfaces..If.they.are.not.glued.securely,.apply. thin.CA.to.both.sides.of.the.hinge.to.secure. them..Do.not.use.accelerator..The.CA.must.be. allowed.to.soak.into.the.hinge.to.provide.the. best.bond.between.the.hinge.and.surrounding. wood.