

INSTRUCTION MANUAL



Please read this manual carefully before operating this plane.

🕂 WARNING

Read this instruction manual fully so as to become completely familiar with the features of this product before operating. Failure to operate this product correctly could result in damage to the product, personal property and cause serious injury. This is a sophisticated hobby product and is NOT a toy. It must always be operated with caution, common sense and some basic mechanical ability. This manual provides instructions on the assembly, safe operation and maintenance of this hobby product. It is highly recommended that you read, and follow fully the instructions and warnings stated in this manual. This includes the safety, assembly, set-up, and flying guidelines in order to operate this product correctly to avoid damage or serious injury.

SAFETY PRECAUTIONS

As the user of this product you and you alone are responsible for operating it in a manner that does not endanger yourself and others around you or result in damage to the product or property of others. This product is operated via a radio controlled system that in some cases can be subject to interference from sources outside of your control. Interference may result in a momentary loss of control so it is always recommended that this product be used in a suitable open outdoors space.

- This is a radio controlled flying model and as such must always be flown with caution and care. This is not a toy.
- This model is designed for intermediate to advanced pilots.
- Alway exercise great caution when using the recommended battery to power this product. For full safety notes and operating procedures, please see information provided by your battery supplier.
- Take great care when connecting/disconnecting the battery. See battery supplier for full safety procedures.
- Never power up the model in confined spaces and always keep the prop clear of obstructions.
- This product is not a toy. Children must be accompanied by a capable and responsible adult at all times if operating this product.
- Only fly this model in an open area away from crowds of people, buildings, trees, power lines, and other obstructions.
- Always put safety first when operating this model and consider the warnings stated above.
- The supplier/manufacturer accepts no responsibility for damage or injury caused through the use of the product. Not suitable for children under the age of 14. THIS IS NOT A TOY.

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INTRODUCTION

Thank you for purchasing the Durafly Tundra V3. After the incredible success of the Tundra V1 and V2, Durafly has decided to produce yet another version with even more improvements to bring this model bang up to date. The V3 is now a pure 4S set-up so it has power in abundance to make your flying even more fun than it was before (if that is at all possible!). Other changes/ improvements are daylight bright LEDs (so bright they are suitable for dawn to dusk flying), a reinforced nylon prop that is more efficient, and better balanced, a return to the classic EPO foam wheels which are lighter, and stronger, and hex-head bolts and screws throughout. The V3 is available in a "Classic" green color scheme, and also a new red and silver scheme Durafly has called the "Inspire". The reason being is that the original Tundra was "Inspired" by the "Highlander" full-size SuperStol experimental airplane.

So if you are looking for flying with no limits then you've found it with the Tundra V3. Whether it's flying from rough bush fields, water, snow, or sand, FPV flying, aerobatics, glider towing, candy dropping, or just good old fashioned super STOL slow flying, then the Tundra V3 takes it all on with ease. Its lightweight yet rugged construction, powerful brushless set-up, and perfectly harmonized design give you an instant feeling of confidence on the sticks as quickly as it puts a smile on your face.

The Tundra V3 also includes the revolutionary Aerostar RVS (reverse function system) G2 ESC, this ESC offers instantaneous reversing, so there is now no need to stop the prop before reversing. This makes it perfect when using the Tundra V3 on the water as a floatplane, but it is also great fun in the air, and really good for short landings, just ensure the prop is on nice and tight!!

Simply put, the Tundra V3 is even more fun to fly than previous versions, and you will be flying even quicker as there is now even less assembly on the V3. With either the included floats, tow mounting point, and FPV canopy, or with the optional skis and candy dropper, the choice is yours regarding how you put your Tundra V3 to work.



SPECIFICATIONS

- Wingspan: 1300mm (51")
- Length: 920mm (36.25")
- Wing Area: 26dm2
- Flying Weight: 1150g
- Number of Channels: 6 (throttle, ailerons, elevator, rudder, flaps, reverse (RVS))
- Motor: 3636-900KV brushless outrunner
- ESC: Aerostar G2 40amp Brushless ESC w/reverse
- Servos: 6 x 9g
- Prop: Durafly nylon reinforced 11.5 x 5
- Battery Suggestions: 1800-2200mAh, 4S, 20-40C



CONTENTS



- 1. Main wing halves
- 2. Fuselage
- 3. Horizontal stabilizer
- 4. EPO main wheels
- 5. Vortex generators
- 6. Hex bolts, screws, and linkages
- 7. Tailwheel
- 8. Hex screwdriver

- 9. Main landing gear straps
- 10. Linkages
- 11. Carbon wing joiners
- 12. 11.5"x5" nylon reinforced propeller
- 13. Main landing gear components for wheels, and floats
- 14. Main wing struts
- 15. Plywood FPV tray
- 16. Float set



ASSEMBLY (PNF)

1.Out of the box your Tundra comes with reinforced foam hinges. However, before you start the assembly, each hinge line must be flexed back and forth 5 to 6 times to reduce the tension and load on the servo. Do this to all the control surfaces before continuing. The aileron pushrods are factory installed, so you will need to use some pliers, or better still, ball-link pliers to pop the ball-link connector off the control horn before you do this.



2A.To mount the undercarriage to the fuselage, start by inserting and securing the two rear braces with the supplied M2.5x8mm hex screws (A). Now insert the main gear wire into the fuselage slot and slide the plastic brace keepers over the rear braces (B) to bring these two parts together. Insert the spring support wire between the main gear wire (C). Use the supplied M2.5x8mm hex bolts to secure the main gear and spring support wire in place with the plastic undercarriage straps (D).

Notes:

Ensure the main gear rakes forward at stage B. Note left (L) and right (R) marked plastic straps and install accordingly during stage D.





2B.Hook the supplied coil springs through the center ring of the spring support wire and the wire cross braces through the ring of the plastic brace keepers (E) to complete the sprung cross bracing assembly (F). Now slide the main wheels onto the axle and secure in place with the plastic grip nut (G). Assembly of the undercarriage is now complete (H).



3.Insert the tail wheel assembly into the plastic slot on the bottom of the rudder and secure with two hex M2.3x8mm self-tapping screws (A). The same method is used when mounting the water rudder (B).



4.Insert one half of the carbon tail spar into one of the horizontal tail pieces before sliding this half into the tail slot on the fuselage. Now install the remaining tail piece (A). Secure both halves in place with the supplied M2.3x8mm hex self-tapping screws and join the elevator with the single M2.3x8mm hex self-tapping screw (B). This installation is self aligning, but do double check to ensure equal aligment to the vertical stabilizer and wing.



5.Using a pair of pliers (ball-link pliers preferably) connect the elevator push rod to the elevator horn(A). To ensure both the elevator and rudder are neutral (with the servos centered) loosen the grub screw of the piano wire fastener and slide the push rods until both surfaces are neutral.(B) Tighten firmly when done. For added security if you wish, the tail can also be glued in place.



6.As mentioned earlier in this manual, the aileron pushrods are already installed, but you will still need to attach the flap pushrods. Insert the flap push rod through the servo arm and secure in place with the plastic keeper (A). Now set the flap servo arm as far forwards as possible, then connect the ball-link to the flap horn and adjust so that the flap is in the fully up (no flap) position (B).



7.Insert the wing spar into the fuselage at the wing root (A) ensuring it is centered. Slide one wing half at a time onto the spar, pushing each panel firmly into place on the fuselage (A) and secure each panel with the provided M2.5x8mm hex bolts (B). Take care to ensure the wing servo PCB is not damaged when connecting the wing to the fuselage.



Notes: For convenience clear tape alone can be used to secure the wing to the fuselage by running the tape along the entire span of the wing join. However this is not recommended if you intend to fly the Tundra aggressively.

8.Attach each wing strut to their respective sides (A), both struts are marked 'L' and 'R' to note left and right hand sides if looking forward from the cockpit. Secure firmly in place using the M2.5x8mm hex bolts supplied (B)..



9.The final stage of assembly is to mount the Durafly 11.5"x5" nylon reinforced propeller using the prop nut as shown (A). However at this stage it is HIGHLY recommended that all set-up and final checks of the model should be done before finally installing the prop firmly in place.



Note: The propeller should be balanced out of the box, however it is recommended a final balance check be carried out before attaching to the model. A well balanced prop will greatly increase all round performance and efficiency of the model in flight..



10.Install your choice of 6-channel receiver (OrangeRx R620X shown) using double sided foam tape or hook & loop self adhesive tape in the location shown (A) under the rear fuselage access hatch. Ensure the Rx aerials are held away from the servos.



Congratulations, basic assembly of your Tundra V3 is now complete. Please perform a final check on all screws, bolts and components, ensuring all are secure and firmly in place.





Setting Up Your Model:

1. With your receiver installed and all servos plugged into their corresponding channels, connect the flight battery to the ESC to power up the electronics. Please note: The V3 has LED lights which will need plugging into a spare channel on your receiver or a Y-Lead. With the model now armed, ensure all servos are centered and all control surfaces are level. If not, adjust by turning the control clevises by hand accordingly until the control surfaces are level as shown.

Note: For safety reasons, it is advised that this is done with the prop removed from the model.



Aileron

Elevator

Rudder

2. Check all control surfaces are moving in the correct direction with the correct stick input (see below).



 Yaw left
 Yaw right

 Yaw right
 Yaw right



3. The Tundra V3 handles very well in flight and that's not down to good design alone, it requires a good pre-flight set-up too. Before you fly your Tundra V3, please follow the recommended settings below for optimum handling and performance.

Control throws:



*Elevator: 'low rates' 8mm, 'high rates' 14mm in either direction from neutral. *Rudder: 'low rates' 8mm, 'high rates' 12mm in either direction from neutral. *Ailerons: 'low rates' 10mm, 'high rates' 20mm in either direction from neutral.

4. Flaps on the Tundra will need to be set for 3 stages (up/no flap, mid flap and full down flap). Either via your radio or mechanically, set this by turning the clevises on the flap control rod, or using the sub-trim, and end points on your Tx (or a mixture of both in most cases). Set mid flap to approximately 45°, and full flaps to approximately 90° to the wing. In the 'up/no flap' position ensure the flaps close fully without straining the servos and are both level with the trailing edge of the neutral ailerons. Also check that both flaps deploy with equal movement at every stage.





5. The recommended center of the gravity (CG) for the Tundra V3 is approximately 50-60mm from the leading edge of the wing. Your Tundra V3 should balance within this range with anything from a 1800mAh - 2200mAh 4S LiPo installed in the battery bay. Your battery can be secured in the battery bay area with the provided hook and loop tape.



With assembly and set-up now complete, your Durafly Tundra V3 should now be ready for flight. However we recommend your read and follow the advice given in the following pages of this manual before flying your model.





Tundra V3 Options:

Your Tundra V3 comes with several features available to you during the assembly. Floats, FPV canopy and tow mounting point are all included in the box. Use of a Candy dropper and skis are optional extra's that are not included. All however, are covered in these following pages.

Floats

With each float placed on a level surface and parallel to one another, add the front and rear cross bracing struts by inserting each end into the inner most hole of the float mounting plate (A). Now insert the ends of the front and rear fuselage mounting struts into the center holes (B). With all float struts installed as shown, secure in place using the M2.3x8mm self-tapping hex screws (C).









UNDRAVE



3. Although not always required, a water rudder does help with steering in less than calm water conditions. Simply remove the tail wheel and replace with the water rudder (A). Both tail wheel and water rudder mount in exactly the same way. This was also shown in "Step 3" of the main assembly section of the manual.







FPV Canopy

To assemble the plywood FPV canopy you'll need some CA and no more than 10 minutes to glue it all together. All parts are laser cut and following the below exploded diagram, the assembly should be self-explanatory. Note to allow some time for the glue to cure on the magnet so the bond is as strong as possible. Also be mindful not to let any glue get to the exposed surface of the magnet.



With the canopy now assembled you are ready to install your FPV equipment as you see fit. However you may wish to follow the simple example shown below.





Tow line mounting point

The built-in tow line hard mounting point gives the Tundra a solid point close to the CG to attach a tow line for gliders etc. The below cutaway shows how the tow line should be inserted and attached to the main spar through the tow line slot.

Note: The model you are towing will need a tow release system of some kind. The hard point on the Tundra is for attaching the tow line only.



Optional Candy Dropper

Mounting the optional Candy Dropper is quick and easy. Position the foam filler over the mounting holes on the underside of the fuselage (A). Feed the Y-lead supplied with the dropper through the center hole and connect to a spare channel on your Rx (B). Secure the dropper using the bolts that are supplied with it to the fuselage (C).





Optional Skis

The optional skis are a worth while addition to the Tundra for flying from both snow and soft sand. First remove the main wheels and slide the plastic sleeve over both axles (A). Then slide each ski onto the axle/sleeve (B) and once in position hook the tension spring around the back of the landing gear wire (C).

Note: You may wish to add a collet to the axle to give the assembly additional security.







Model Flying Precautions

- Select your flying area carefully. Always choose an open space that is unobstructed from trees and buildings and away from crowed areas. Avoid flying in areas with roads, electric/telephone poles/wires and water near by (unless using the floats) or within close proximity to full size air traffic.
- Do not fly this model in poor weather. High winds, low visibility, inclement temperatures, rain and storms are to be avoided.
- Never attempt to catch this model whilst in flight. Even a slow moving model can cause harm to yourself and others, and also risks damage to the model.
- This model is not recommended for children younger than 14 years of age. All children, no matter what age, should always be supervised by a capable and responsible adult when operating this model.
- Always unplug your model battery when not in use. Never leave the battery installed in the model.
- Remember to keep clear of the propeller at all times when your flight battery is connected.
- Before flying, always turn on your transmitter first, then plug your flight battery into the model.
- After flying, always unplug your flight battery first, then turn off your radio transmitter.
- Exercise caution when charging your batteries and follow in full your battery manufacturers safety guideline when doing so.

Pre-flight Checks

- 1. Always range check your model before any flight (especially when flying a new model for the first time). Follow your radio manufacturers guidelines for performing this check.
- 2. Check all screw/bolts and mounting points are firmly secured, including control horns and clevises.
- Only fly with fully charged batteries (both in your radio and model). Failure to do so could result in loss of control, damage to the model and/or persons/property around you. Check your batteries are fully charged.
- 4. With the model powered up (Transmitter on first, then receiver/model) check that all surfaces are free from damage/obstructions, moving in the correct directions and freely with the stick inputs.
- 5. Inspect the model and prop for any damage that may have occurred during transit and listen for any unusual sounds from the electronics when powered up. If in doubt, do not fly.
- 6. With the model held securely and the prop free of obstructions, increase the throttle just slightly to confirm the rotation of the prop is correct. The model should want to pull straight forward with throttle and with forwards selected on the ESC.
- 7. If this is your first flight with the model double check the C/G is at the correct position. If not adjust the battery position inside the model accordingly.
- 8. If you are an inexperienced model pilot seek the help and assistance of an experienced pilot to perform these final checks and to test fly the model for you.

Flying The Tundra V3:

IDRAVE

The Durafly Tundra V3 is both an easy and versatile aircraft to fly and has no special considerations when it comes to flying but do make sure you've followed the set-up guidelines and recommendations in this manual thoroughly to make the best of your flying experience.

Thanks to the powerful motor and prop combination you can be off the ground (or water) within just a matter of meters, if you are looking for a nice long rolling take-offs however, where's the fun in that! Once you have your model trimmed, the real fun starts with the zero rollout, full flap take offs, just be ready to hold in some down elevator! In the air the Tundra is super stable at all speeds as well, full throttle sport flying allows you to explore the full aerobatic potential of the Tundra, where as at lower speeds and with an indulgent use of the flaps, the Tundra really comes into its own with almost full STOL type flying characteristics, flying slow has never been so much fun. On the ground too, with the very authentic bush style tires and functional sprung undercarriage, the ground never looked so inviting. With the Tundra rolling across the ground is just as exhilarating as rolling through the air.

Off water the only real consideration is getting of the surface of the water itself. This is greatly aided by the use of half flaps on all take off runs as they will help lift the Tundra up off the surface of the water. For towing, just remember to always keep the line tight and to stay below the model being towed. In the snow or sand with skis, just be mindful that you have less prop clearance, but maybe you'll be having too much fun to notice!

As mentioned in the introduction, the Tundra V3 is fitted with extremely bright LED's, this makes it suitable for flying from dawn to dusk. This and all the other attributes makes the Tundra V3 one of the most versatile RC planes on the market today.



Tundra Tips:

VDRAVE

- If flying from a hard surface (tarmac, asphalt) then remove the spring system from the undercarriage to avoid excessive bouncing on landings.
- When flying with floats of water, it is advised to always use at least half flaps on takeoff. Semi deployed flaps will greatly increase the Tundra's ability to lift off the water surface.
- When landing on water, always land with a good amount of forward momentum to help achieve the smoothest water landings possible.
- Use of water rudder should only be needed when flying from rough water or in stronger winds. Generally the standard rudder alone is sufficient for flying off calmer waters and in calm conditions.
- Due to the added weight of the floats, a 1800mAh 4S would be a more suitable LiPo to use rather than the heavier 2200mAh 4S when flying from water. This will keep the overall wing loading down.
- If you intend to perform STOL style landings often with your Tundra, it is suggested you use the
 optional tail brace upgrade supplied with most models. This will greatly improve the strength
 and rigidity of the tail which will be of great benefit with the higher forces at play with landing
 STOL fashion.
- For optimum flight performance/model longevity, it is highly recommended that you always fly with a balanced prop. The supplied prop should be balanced, but it's always good to check first.
- Keep all leads within the fuselage area as tidy as possible. Tidy wires look better, allow for easier access to all internal components, better battery installation, increased airflow around the electronics, and a reduction in potential electronic signal interference (noise).
- Do not leave your model in direct sunlight or in a hot vehicle for prolonged periods of time. This will have an adverse effect on the foam surface of the model.

Thank you again for purchasing the Durafly Tundra, we know you'll enjoy it immensely.

Don't forget, spare parts are available for this model, please see below for details.



Required To Complete Tundra V3:

In its 'Plug n Fly' format the Tundra V3 will still require some additional electronic components to get it ready for flying. Durafly recommends the products below for optimum performance and great value. Available at **hobbyking.com**



OrangeRx Tx10i 10ch 2.4GHz DSMX Compatible Radio System SKU: 9171001398-0



Turnigy T6A-V2 Mode 2 AFHDS 2.4GHz 6Ch Transmitter w/Receiver SKU: 9114000074-0



Turnigy TGY-i6 Mode 2 AFHDS Transmitter and 6CH Receiver SKU: 9114000020-0



RADIOMASTER Pocket ELRS LBT 2.4GHz Compact 16ch Transmitter w/Open-Source Edge TX Firmware SKU: 1022720070



OrangeRx R615X DSM2/DSMX Compatible 6Ch 2.4GHz Receiver SKU: 9101800001-0



RADIOMASTER ER6 LBT 2.4GHz 6ch ELRS PWM Receiver w/Dual Antenna SKU: 1022720042



RADIOMASTER ER8G LBT 2.4GHz 8ch ELRS PWM Receiver w/Dual Antenna SKU: 1022720050



FrSky X8R 8/16Ch S.Bus ACCST Telemetry Receiver W/ Smart Port SKU: 236000114-0



ZIPPY Compact 1800mAh 4s 40c Lipo Pack SKU: 9067000022-0



Turnigy 1800mAh 4S 30C Lipo Pack SKU: T1800.4S.30



Turnigy nano-tech 1800mah 4S 25~50C Lipo Pack SKU: N1800.4S.25



Turnigy Nano-Tech 2200mAh 4S 25C Lipo Pack w/XT60 SKU: 9210000272-0

OPTIONAL ACCESSORIES:



Hobbyking Candy Dropper: Part No. 9499000351-0



Durafly Skymule Ski Set: Part No. 9310000176-0



Spare Parts Listing



Fuselage Set Part No.:

SKU: 9499790592 Red/White SKU: 9499790590 Green/White



Main Wing Set Part No.: SKU: 9499790593 Red/White SKU: 9499790591 Green/White



Horizontal Stabilizer Part No.: SKU: 9499790595



Float Set Part No.: SKU: 9499790596



Battery Hatch/Canopy Part No.: SKU: 9499790597 Red



Main Wheel Set Part No.: SKU: 9499790598



Tail wheel Set Part No.: SKU: 9499000068-0



FPV Plywood Tray Part No.: SKU:9499000069-0



Cowl Part No.: SKU: 9499790599 Red



Inspire Decal Set Part No.: SKU: 9499790600



Wing Struts Part No.: SKU: 9499000072-0



Hardware Set Part No.: SKU: 9499000073-0



Main Landing Gear Assembly Part No.: SKU: 9499000074-0



Motor Mount Part No.: SKU: 9499000078-0



Main Wing Spar Part No.: SKU: 9499000350-0



Main Landing Gear (Black)

Part No.: SKU: 9499790594



3636-900KV Motor w/Adapter Part No.: SKU: 9499000076-0



11.5x5 Prop Part No.: SKU: 9499790601



Trouble Shooting:

Problem	Cause	Solution
	 Battery is not fully charged. Transmitter battery low. Motor not connected. 	 Charge the battery. Install a charged battery. Check the connections between the ESC and motor.
Motor does not run.	 The motor is damaged. Receiver is not bound to Tx. 	 4. Replace motor. 5. Consult Radio manual and go through bind procedure
	6. ESC in set-up mode.	6. Hold model and move throttle to full position then back down to idle.
Model moves backwards.	 Prop installed backwards ESC in reverse mode 	 Turn the prop around Select forwards on your Tx reversing channel
Control surfaces not moving with stick input.	 The servo lead is not connected to Rx correctly. The servo is damaged. 	 Make sure the servo leads are connected properly. Replace servo.
Model does not fly straight.	 Control surfaces not centered. CG is not in the correct position. 	 Adjust the trims on the transmitter. Re-position LiPo as suggested.
Model does not climb well.	 The battery is not fully charged. Elevator servo is reversed. CG too far backwards. 	 Charge the battery. Change servo direction via Tx. Move battery forwards.
Limited Radio Range.	1. Transmitter/Receiver batteries are flat.	1. Charge/replace batteries.

Contact:

For more information on this model and the entire range from Durafly please visit us at:

- Durafly.com

Or see our Facebook page at:

- Facebook.com/durafly

And don't forget you can see the product video for this model and the entire Durafly range at:

- youtube.com/hobbykinglive

For your next Durafly purchase be sure to visit:

- hobbyking.com

If you wish to contact us directly please email:

- durafly@hobbyking.com

Notes:

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