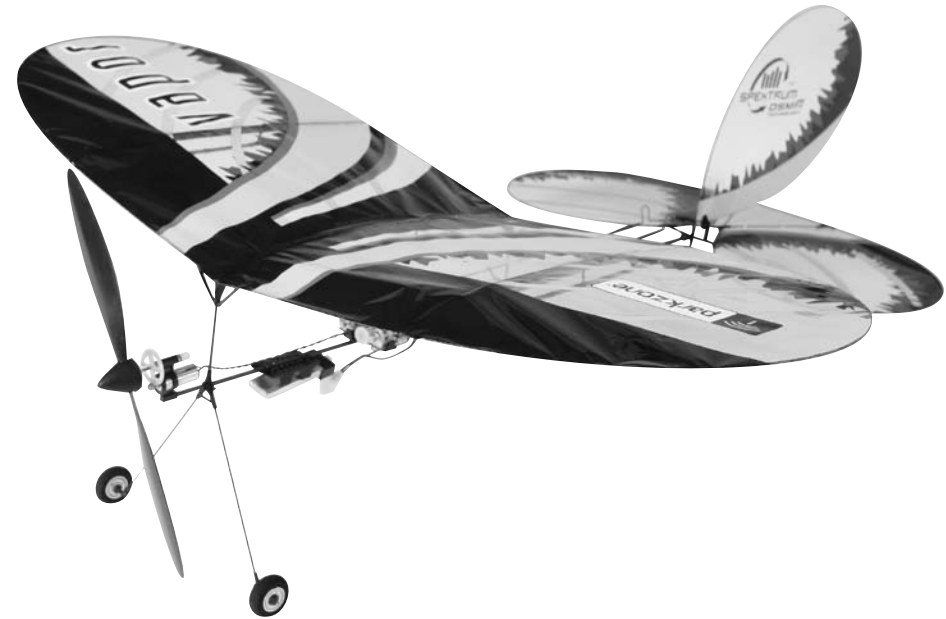




Vapor™ RTF Instruction Manual



PKZ3315
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Multiple patents pending.

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13071.2

ETOMIC™
MICRO FLYERS, MAXIMUM FUN.



Transmitter: PKZ 4-channel with Spektrum 2.4GHz
DSM2 Technology
Battery: 3.7V 70mAh Li-Po
Wingspan: 13.25 in (335mm)
Length: 16 in (420mm)
Flying Weight: 0.4 oz (12 g)





Vapor RTF Instruction Manual

Congratulations on your purchase of the ParkZone® Vapor™ RTF airplane. ParkZone’s Etomic™ family of innovative ultra-micro flyers makes micro flight a reality for everyone. Proportional, multi-channel, 2.4GHz radio technology provides precise control for amazing, ready-to-fly indoor fun. Your Vapor comes pre-assembled with everything needed to get you in the air—all in one box. You only need to charge the flight battery prior to your first flight. In as little as 30 minutes, you can be flying. This means you can spend your time refining your flying skills instead of your building skills. Your ParkZone Vapor will allow you to perform many aerobatic maneuvers, all in an area the size of your living room!

We at ParkZone are committed to giving you the most enjoyable flight experience possible. In order to have a safe and successful flight, we ask that you do not fly until you have read these instructions thoroughly.

Your Vapor features the latest in ultra submicro technology, including a 2.4GHz DSM2™ fully proportional 4+ channel transmitter and 3-channel receiver with full control of throttle, rudder and elevator. Your Vapor also comes complete with the latest in lightweight electronic speed control technology, two linear servos, a 3.7V 70mAh Li-Po flight battery and a convenient charger.

Warning

Though your ParkZone Vapor comes ready to fly, this aircraft is for experienced RC pilots only and is not a toy. It can cause serious bodily harm and damage to property!

FCC Statement

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Caution!

Changes or modifications not expressly approved by the party responsible for compliance could void the user’s authority to operate the equipment.



Instructions for Disposal of WEEE by Users in the European Union

This product must not be disposed of with other waste.

Ⓢ Ⓢ Ⓢ Instead, it is the user’s responsibility to dispose of their waste equipment by handing it over to a designated collections point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service or where you purchased the product.

This product contains a radio transmitter with wireless technology which has been tested and found to be compliant with the applicable regulations governing a radio transmitter in the 2.400 GHz to 2.4835 GHz frequency range.

The associated regulatory agencies of the following countries recognize the noted certifications for this product as authorized for sale and use:

USA	Canada	Belgium
Denmark	France	Finland
Germany	Italy	Netherlands
Spain	Sweden	UK

Step 1

Transmitter

Your ParkZone Vapor airplane comes with a fully proportional 4+ channel transmitter that includes digital trims.

1. Insert the 4 AA batteries that are included with the package into the transmitter, noting proper polarity.
2. Turn the switch on to ensure the batteries have been installed correctly. When the batteries are installed correctly, the LED on the transmitter should glow brightly. When the transmitter makes a repeated “beep” sound, it is time to replace the transmitter batteries.

Binding Process

The 2.4GHz DSM2 receiver in the Vapor uses a unique binding operation to link your transmitter with your receiver. Please refer to your transmitter’s manual for detailed binding instructions when binding to another DSM2-equipped transmitter. Confirm that ATV travels on your DSM2 transmitter are not exceeding 100% prior to binding your transmitter to the Vapor.

Binding to the ParkZone DSM2 Transmitter

1. Make sure your transmitter is powered off and the battery has been unplugged from your Vapor.
 2. With the transmitter turned off and plugged in. The transmitter must be turned on and placed in bind mode within 5 seconds of the flight battery being plugged in or it will not complete the binding process.
- Note:** *The LP5DSM transmitter included with the E-flite Blade CX2 simply needs to be powered on.*
3. Once the transmitter has been turned on, the binding process should be finalized within about 8 seconds. If you encounter a problem simply unplug the flight battery, turn off the transmitter and repeat the process. If you still cannot complete the bind process, call the Horizon Support Team at 877.504.0233, or find your local distributor at www.horizonhobby.com to contact for assistance.

Step 2

Charging the Aircraft Battery

The included charger uses unique circuitry that ensures an accurate charge for the 3.7V 70mAh battery pack every time. It also protects the battery from being overcharged, which can damage the battery pack. The charger sequence begins with charging at constant current, then later switches to constant voltage.

To charge your ParkZone 3.7V 70mAh battery:

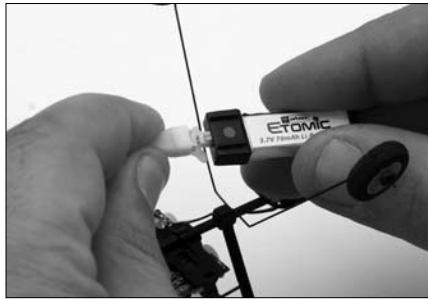
1. Remove the cover and install four of the included AA batteries in the charger base, noting proper polarity. Replace the cover when done.
2. Slide the battery into the charge slot on the display stand.
3. Gently press the battery into the charging jack in the bottom of the slot, with the battery label facing outward. It is very important to note proper polarity to avoid damaging the battery. The LED light on the base will turn solid red.
4. The battery will charge in approximately 20 minutes when nearly depleted.
5. As the battery nears full charge, the LED will begin to blink. When fully charged, the LED will blink once every 20 seconds.
6. You can expect to be able to charge the flight battery about 15–20 times before it will become necessary to replace the 4 AA batteries. Replacing with alkaline batteries will extend the AA battery life.



Step 3

Motor Test

1. Make sure the throttle stick is down in the "Off" position.
2. Turn on the transmitter and wait 5 seconds.
3. Plug the flight battery into the white lead in the fuselage. This must be done carefully to avoid accidentally reversing the polarity and causing damage to the ESC and battery. You should have control of the aircraft within 5 seconds of connecting the flight battery.



4. Secure the flight battery. Gently press the battery pack against the hook and loop material on the underside of the fuselage.
5. Advance the throttle forward and the propeller should spin at a high speed. (**CAUTION:** Make sure that you keep everything away from the propeller at all times.)
6. When finished with the motor test, continue to Flight Control Test on the next page.
7. You may notice there is some down thrust when looking at the prop/prop shaft. This is intentional and is not a sign of damage.

Adult Supervision Required

Warning: Keep everything clear of the propeller and hold the plane securely. A moving propeller can cause severe injury.

Step 4

Flight Control Test

Warning: Keep everything clear of the propeller before starting the control test in the event that you accidentally turn on the motor.

1. Be certain that the throttle stick is down in the "Off" position. Aircraft supplied with a Mode 1 transmitter will function with the throttle/ rudder operation on the right stick and elevator operation on the left stick.
2. Move the right stick from side to side. The rudder should move per your transmitter input.



Shown with right stick pushed to the left.



Shown with right stick pushed to the right.

3. When using a Mode 2 transmitter, move the right stick full forward. When this is done, the elevator control surface should move down. Mode 1 transmitters will operate with the elevator control located on the left stick and the throttle/ rudder control on the right stick.



4. Pull the right stick back (the left stick for Mode 1 transmitters) and the elevator control surface should move upward.



5. If your airplane is not responding correctly to the transmitter input, do not fly. Some correction is needed. Call the Horizon Support Team at 1.877.504.0233, or find your local distributor on the Horizon Hobby website to contact for assistance.
6. When the test is complete, be sure to disconnect the flight battery first, then turn off the transmitter. This should be done each time you turn off the airplane.

Note: *It is very important to make sure that the control surfaces (rudder and elevator) are at 0 degrees, or neutral, when the right transmitter stick is centered.*

Step 5

Reversing Flight Controls

Should the Vapor's electronic components be used in another aircraft, you may find it necessary to reverse the operation of flight control surfaces. Reversing the rudder and aileron operation can be accomplished by following the steps below:

1. Be certain that the battery is unplugged from the aircraft and the transmitter is turned off.
2. Push down on the digital trim button for the surface you would like to reverse.

Top elevator trim button—elevator normal
Bottom elevator trim button—elevator reverse
Left rudder trim button—rudder normal
Right rudder trim button—rudder reverse

3. Continue holding the desired digital trim button down and turn the transmitter on.
4. Hold the digital trim button down for approximately five seconds until tones are heard, confirming the selection.

5. Connect the flight battery and complete the flight control test, confirming that all surfaces are operating in the correct direction.

Step 6

Making Adjustments to the Control Surfaces

1. Any changes necessary to bring both the rudder and elevator to neutral (zero degrees) when the right transmitter stick is centered should be possible using the digital trim buttons.
2. If you find this is not the case, do not fly until this has been corrected.
3. If corrections are needed, you may have to adjust the length of the pushrod by gently stretching or pinching the bend in the control wire as necessary. You can also achieve more control by changing the hole on the control horn that the pushrod goes into. We suggest you fly it first as it comes from the factory and then only move "in" one hole at a time.

Step 7

Flying

Choose a Large, Open Flying Site

Always choose a wide-open space for flying your ParkZone Vapor. It is ideal for you to fly in an indoor location with a floor area of 15' x 15' and a minimum ceiling height of 8 feet. We suggest that first flights are done in a larger area, such as in a garage or basement.

If you choose to make your flights outdoors, the conditions **MUST** be **COMPLETELY CALM**. The Vapor weighs less than 1/2 ounce and can easily be blown away. If you choose to fly outdoors, remember to always keep the plane upwind from you to avoid flyaways.

Make certain that you do not fly near trees, buildings, or other areas that can restrict your view or interfere with your flying.

Step 8

Seek Assistance from an Experienced Radio Control Pilot VERY IMPORTANT

The 3-channel function is designed for the experienced radio control pilot and is not intended for the first-time flier. It is best to have HobbyZone® Zone 2 experience. First-time pilots of the ParkZone Vapor should seek the assistance of an experienced RC flier until the additional third channel, pitch control, has been competently mastered. Crash damage is not covered under the warranty. It is very important to confirm the ParkZone Vapor is properly balanced prior to flying.

Note: *Due to the lightweight design of the ParkZone Vapor, it is highly recommended that the original packaging be used when storing and transporting the aircraft to prevent damage. Take care to not leave the Vapor in direct sunlight or stored inside a vehicle on a warm day. Excessive heat may cause damage to the Vapor's film covering.*

Step 9

The Vapor's front wing mount should be positioned at approximately 28–30mm behind the front of the fuselage for the initial flights, with the front of the battery tray positioned at approximately 10–12mm behind the front wing mount. The Vapor will fly at a wide range of CG positions, allowing you to alter the flying characteristics of the aircraft. You may also experiment and add a little “up” trim to the elevator which will bring the nose up slightly in flight. This will provide the airplane with the ability to fly even slower.

Hand Launching the Vapor

1. Make certain that the aircraft battery is fully charged.
2. Turn on the transmitter.
3. Plug in the aircraft battery.

4. Test the motor and surface controls.
5. While holding the transmitter in one hand, push the throttle stick to half throttle (up) with thumb.
6. Launch using light force. Keep the wings level. Do not throw it up or down. Point it level (parallel) with the ground when releasing. Use caution when launching the Vapor as to not grasp the pushrods. Grasping the pushrods may result in damage to the servos.

Step 10

Runway Takeoff

1. Prior to attempting a runway takeoff, you should have had several successful flights of hand launching the Vapor.
2. Make certain the aircraft battery is fully charged.
3. Turn on the transmitter.
4. Plug in the aircraft battery.
5. Stand behind the Vapor. Make certain you are on a smooth surface such as concrete or wood.
6. Apply full throttle and adjust controls to keep your Vapor on its intended path.
7. If the battery is fully charged, you should be able to lift off the ground in a few feet. As you notice the back of the plane beginning to lift a bit off the ground, apply some “up” elevator. Do not give too much “up” elevator, or you can cause the airplane to enter into a stall.

Step 11

Flying

1. After launching, your Vapor will climb at 3/4 to full throttle. Keep the throttle at 3/4 to full on until you have reached a safe altitude. At this same time, make sure that you are continuing to keep the airplane directed on its intended path.

Note: *When flying your Vapor you will find it takes a low throttle setting (approximately 1/2 throttle) to maintain level flight.*

2. Make right and left adjustments as necessary to keep the plane headed on its intended path. After you have reached 4–6 feet of altitude, you can begin to make directional changes that you desire.
3. Avoid holding the stick full right or left for more than two seconds, as this will cause the plane to enter a spiral and could cause your Vapor to crash.
4. Do not try to climb too fast by pulling all the way back on the elevator, or your plane may enter into a stall. Instead, climb by giving small amounts of elevator.
5. Damage/bends to the wings or tail can greatly affect flight control. Repair or replace the damaged parts immediately. Small holes or other damage to the covering can be repaired with a small amount of clear packing tape.
6. The Vapor is designed for a slow and relaxing flight experience. Flying too fast and descending too quickly will put a lot of stress on the airframe and servos, and is not recommended.

Sharp Turns

In order to make a sharper turn, move the stick in the desired direction and add some up elevator (pull back on stick). The plane will make a sharper banking turn.

Note: *With the throttle set at low or off (gliding), the plane will not turn as fast as when you are flying at or near full throttle.*

Rudder Trim

If the model wants to constantly turn in one direction, use the digital trim buttons to correct. Your Vapor should fly straight with the control stick at neutral. Always make trim changes in one-click intervals.

Elevator Trim

If your Vapor wants to go up or down, use the digital trim buttons located to the left of the control stick to correct. The model should fly straight with the control stick at neutral and should have a steady, shallow climb at full throttle.

Step 12

Throttle Adjustment

1. Climb to an altitude of 4–6 feet (1.2–2 meters) with full throttle.
2. To achieve and maintain a level “cruising” altitude, reduce the power by moving the throttle stick down to approximately 50% of full-throttle. The throttle stick is proportional, so you can add or reduce throttle in small increments as needed to maintain the altitude that you desire.
3. To reduce altitude, reduce throttle.
4. To increase altitude, increase throttle.

Step 13

Using Elevator

Your Vapor is equipped with a third channel for elevator (pitch control). Pulling back on the stick provides up elevator. This allows for shorter takeoffs, better flares for landing, better climb rates, and more effective turns. However, pulling too far back on the elevator to climb too quickly will cause the airplane to enter a stall (make the nose of the plane come down).

To avoid crashing from a stall, always maintain enough altitude to recover.

Just after a stall has occurred, the nose of the airplane will fall and the plane will look like it is diving. To pull out of a stall, simply pull back slowly on the stick (partial up elevator) once your Vapor has built up airspeed. Remember, pulling back too quickly or for too long will once again cause the airplane to enter a stall. Effectively avoiding and recovering from stalls requires experience. Always seek the help of an experienced radio control pilot if you are not familiar with pitch control. Failure to do so, could result in a crash and significant damage to your airplane.

Step 14

Landing Your Vapor

When you begin to notice that your Vapor no longer climbs well under full power (normally after approximately 10–15 minutes), the battery is getting low and it is time to land. Bring in your aircraft toward the desired landing spot. Gradually reduce throttle (as well as giving a small amount of down elevator if you choose) to reach an altitude of approximately 4 feet (1.2 meters). At this point, reduce even more throttle and your Vapor should glide in softly for a landing.

Note: *Your Vapor should be landed on a smooth surface (such as concrete or wood) so that the landing gear can work effectively.*

Expert Tip: *As you get better and more experienced at flying, try adding a bit of “up” elevator just prior to landing to “flare” the plane. With some practice, your landings should become smooth and on target.*

Warning: *Do not attempt to catch the airplane or injury may occur. Remember, there is a spinning propeller on the front of the plane that can cause injury! Also, remember to cut power to the motor right before you land to prevent damage to the propeller.*

Step 15

Replacing the Prop shaft

If you find that you need to replace the prop shaft, you can easily do so by:

1. Note proper orientation of where the white spur gear meshes with brass motor pinion.
2. Grasp the white nylon nut at the very back of prop shaft.
3. Turn the shaft (including the propeller if it is still on shaft) counterclockwise until the shaft completely pulls out of the gear box.
4. Replace the shaft making certain to re-install all necessary parts and by turning the new prop shaft clockwise while again securing the white nut. Once prop shaft is properly installed, the spur gear should mesh with the pinion.

Warranty Period:

Exclusive Warranty- Horizon Hobby, Inc., (Horizon) warrants that the Products purchased (the "Product") will be free from defects in materials and workmanship at the date of purchase by the Purchaser.

Limited Warranty

(a) This warranty is limited to the original Purchaser ("Purchaser") and is not transferable. REPAIR OR REPLACEMENT AS PROVIDED UNDER THIS WARRANTY IS THE EXCLUSIVE REMEDY OF THE PURCHASER.

This warranty covers only those Products purchased from an authorized Horizon dealer. Third party transactions are not covered by this warranty. Proof of purchase is required for warranty claims. Further, Horizon reserves the right to change or modify this warranty without notice and disclaims all other warranties, express or implied.

(b) Limitations- HORIZON MAKES NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, ABOUT NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF THE PRODUCT. THE PURCHASER ACKNOWLEDGES THAT THEY ALONE HAVE DETERMINED THAT THE PRODUCT WILL SUITABLY MEET THE REQUIREMENTS OF THE PURCHASER'S INTENDED USE.

(c) Purchaser Remedy- Horizon's sole obligation hereunder shall be that Horizon will, at its option, (i) repair or (ii) replace, any Product determined by Horizon to be defective. In the event of a defect, these are the Purchaser's exclusive remedies. Horizon 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. 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 Horizon. Return of any goods by Purchaser must be approved in writing by Horizon before shipment.

Damage Limits:

HORIZON SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR PRODUCTION OR COMMERCIAL LOSS IN ANY WAY CONNECTED WITH THE PRODUCT,

WHETHER SUCH CLAIM IS BASED IN CONTRACT, WARRANTY, NEGLIGENCE, OR STRICT LIABILITY. Further, in no event shall the liability of Horizon exceed the individual price of the Product on which liability is asserted. As Horizon 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.

Law: These Terms are governed by Illinois law (without regard to conflict of law principals).

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 directly. This will enable Horizon to better answer your questions and service you in the event that you may need any 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 this 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 is not responsible for merchandise until it arrives and is accepted at our facility. A Service Repair Request is available at www.horizonhobby.com on the "Support" tab. If you do not have internet access, please include a letter with your complete name, street address, email address and phone number where you can be reached during business days, your RMA number, a list of the included items, method of payment for any non-warranty expenses and a brief summary of the problem. Your original sales receipt must also be included for warranty consideration. Be sure your name, address, and RMA number are clearly written on the outside of the shipping carton.

Warranty Inspection and Repairs

To receive warranty service, you must include your original sales receipt verifying the proof-of-purchase date. Provided 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 the repair will be completed and payment will be required without notification or estimate of the expense unless the expense exceeds 50% of the retail purchase cost. By submitting the item for repair you are agreeing to payment of the repair without notification. Repair estimates are available upon request. You must include this request with your repair. Non-warranty repair estimates will be billed a minimum of ½ hour of labor. In addition you will be billed for return freight. Please advise us of your preferred method of payment. Horizon 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. Please note: non-warranty repair is only available on electronics and model engines.

United States:

Electronics and engines requiring inspection or repair should be shipped to the following address:

Horizon Service Center
4105 Fieldstone Road
Champaign, Illinois 61822

All other products requiring warranty inspection or repair should be shipped to the following address:

Horizon Support Team
4105 Fieldstone Road
Champaign, Illinois 61822

Please call 877-504-0233 or e-mail us at productsupport@horizonhobby.com with any questions or concerns regarding this product or warranty.

European Union:

Electronics and engines requiring inspection or repair should be shipped to the following address:

Horizon Hobby UK
Units 1-4 Ployters Rd
Staple Tye
Southern Way
Harlow
Essex CM18 7NS
United Kingdom

Please call +44 1279 641 097 or sales@horizonhobby.co.uk with any questions or concerns regarding this product or warranty.

Horizon Technischer Service
Otto Hahn Str. 9a
25337 Elmshorn
Germany

Please call +49 4121 46199 66 or service@horizonhobby.de with any questions or concerns regarding this product or warranty.

Replacement Parts

Make sure that you keep your Vapor flying. Replacement parts are available at your local hobby store or from Horizon Hobby (www.horizonhobby.com). Please try your local hobby store first. By supporting them, they will be there when you need them.

Item #	Description
PKZ3001	3.7V 70mAh LiPo Battery: Vapor
PKZ3240	Charger: Vapor
PKZ3302	Prop with Spinner: Vapor
PKZ3306	Landing Gear Set: Vapor
PKZ3307	Tail Wheel: Vapor
PKZ3316	Main Motor: Vapor
PKZ3320	Main Wing: Vapor
PKZ3322	Pushrod Set: Vapor
PKZ3324	Horizontal Stabilizer: Vapor
PKZ3325	Rudder: Vapor
PKZ3327	Gearbox Without Motor: Vapor
PKZ3328	Prop Shaft with Spur Gear
PKZ3341	Transmitter, 2.4GHz w/Spektrum DSM2: Vapor
PKZ3351	Receiver/ESC, DSM2: Vapor
PKZ3361	Fuselage w/Electronics: Vapor
PKZ3367	Bare Fuselage: Vapor