NIGHT VAPOR

Instruction Manual

RTF PKZU1100
BNF PKZU1180

Created 03/10

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RTF BNF

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ULTRA MICRO SERIES

NOTICE

All instructions, warranties and other collateral documents are subject to change at the sole discretion of Horizon Hobby, Inc. For up to date product literature, visit http://www.horizonhobby.com/ProdInfo/PKZU1100.

Meaning of Special Language

The following terms are used throughout the product literature to indicate various levels of potential harm when operating this product:

NOTICE: Procedures, which if not properly followed, create a possibility of physical property damage AND a small or null possibility of injury.

CAUTION: Procedures, which if not properly followed, create the probability of physical property damage AND a possibility of serious injury.

WARNING: Procedures, which if not properly followed, create the likely probability of physical property damage AND may lead to a dangerous condition or cause death or serious injury to the user, OR procedures, which if not followed, create the high probability of superficial injury.

WARNING: Read the ENTIRE instruction manual to become familiar with the features of the product before operating. Failure to operate the product correctly can result in damage to the product, personal property and cause serious injury.

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. Do not attempt disassemble, use with incompatible components or augment product in any way without the approval of Horizon Hobby, Inc. This 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 serious injury.

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Product Registration

Register your product online at www.parkzone.com/register.

Introduction

Congratulations on the purchase of your ParkZone® Ultra Micro Series Night Vapor RTF/BNF. Its feather-light flying weight, slow speed and integrated LED lights make it possible for you to experience a whole world of unique RC adventures. Touch-and-gos off the dining room table, spot landing contests in the conference room, starlit sorties in the backyard on calm summer nights—the Night Vapor can do it all. You can even fly it in complete darkness with its LEDs as the only light source.

This manual will help you get the most from every flight you take. In it you will find battery-saving charging tips, recommended control setups, detailed binding instructions and more.

Product Support

For assistance in charging, setting up, binding or operating your Night Vapor, please see page 23 to contact the appropriate Horizon Product Support office.

Specifications

Wingspan . . . . . 13.25 in (335mm)
Length . . . . . 16 in (420mm)
Weight (with battery). . . . . 16.4 g (0.6 oz)
Battery . . . . . 70mAh 3.7V 14C Li-Po
Charger . . . . . 1S 3.7V DC Lithium Polymer Battery Charger (included)
Transmitter . . . . . 3+ channel with Spektrum™ 2.4GHz DSM2™ technology
On-Board Electronics . . . . . 3-channel Rx/ESC with LED port

Night Vapor RTF Contents

- Night Vapor Airframe
- 8 AA batteries
- 70mAh 3.7V 14C Li-Po battery
- 2.4GHz DSM2 Transmitter
- 1S 3.7V DC Li-Po battery charger, 0.3A charge rate

Night Vapor BNF Contents

- Night Vapor Airframe
- 4 AA batteries
- 70mAh 3.7V 14C Li-Po battery
- 1S 3.7V DC Li-Po battery charger, 0.3A charge rate

A DSM2-compatible aircraft transmitter is required to complete your Night Vapor.

Safety Precautions and Warnings

As the user of this product, you are solely responsible for operating in a manner that does not endanger yourself and others or results in damage to the product or the property of others. We also highly encourage you to seek the help of another experienced pilot if you have little to no RC experience.

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

Age Recommendation: 14 years or over. This is not a toy. This product is not intended for use by children without direct adult supervision.

- Never operate your model with low transmitter batteries.
- Always operate your model in an open area away from cars, traffic or people.
- Avoid operation of your model in the street where injury or damage can occur.
- Never operate your model in the street or in populated areas for any reason.
- Carefully follow the directions and warnings for this and any optional support equipment (chargers, rechargeable battery packs, etc.) 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.
- Never lick or place any portion of your model in your mouth as it could cause serious injury or even death.

Battery Warnings and Guidelines

The 1S 3.7V DC Lithium Polymer Battery Charger (PKZ3240) included with the Night Vapor has been specifically designed to safely charge the included 70mAh 3.7C 14C Li-Po battery. You may also use the E-flite® Celectra™ 4-Port Charger (EFLC1004). You must read the following safety instructions and warnings before handling, charging or using the Li-Po battery.

CAUTION: Li-Po batteries are significantly more volatile than the alkaline, Ni-Cd or Ni-MH batteries used in RC applications. All instructions and warnings must be followed exactly. Mishandling of Li-Po batteries can result in a fire, personal injury, and/or property damage.

- By handling, charging or using the included Li-Po battery you assume all risks associated with lithium batteries. If you do not agree with these conditions, return your complete Night Vapor model in new, unused condition to the place of purchase immediately.
- You must charge the included Li-Po battery in a safe area away from flammable materials.
- Never charge the battery unattended. When charging the battery you should always remain in constant observation to monitor the charging process and react to potential problems that may occur.
- After flight, the battery must be cooled to ambient temperature before charging.
- **DO NOT USE A Ni-Cd OR Ni-MH CHARGER. Failure to charge the battery with a compatible charger may cause a fire, resulting in personal injury and/or property damage.**
- If at any time during the charge process the battery begins to balloon or swell, discontinue charging or discharging immediately. Quickly and safely disconnect the battery, then place it in a safe area away from flammable materials to observe it for at least 15 minutes. Continuing to charge or discharge a battery that has begun to balloon or swell can result in a fire.
- A battery that has ballooned or swollen even a small amount must be removed from use immediately.
- Store the battery at room temperature in a dry area for best results.
- When transporting or temporarily storing, the battery temperature range should be from 40˚-120˚F. Do not store battery or model in a car or direct sunlight whenever possible. If stored in a hot car, the battery can be damaged or even catch fire.
- Do not over-discharge the Li-Po flight battery. Discharging the battery too low can cause damage to the battery resulting in reduced power, duration or failure of the battery. (See below for details.)

Li-Po cells should not be discharged to below 3V each under load. In the case of the Li-Po battery used for the Night Vapor, you will not want to allow the battery to fall below 3V during flight.

The Night Vapor receiver unit features a soft low voltage cutoff (LVC) that occurs when the battery reaches 3V under load. When the soft cutoff occurs, the ESC of the receiver unit reduces power to the motor (regardless of the power level set with the throttle stick) in order to prevent the voltage of the battery from dropping below 3V. This power reduction usually requires you to land the model immediately, at which point you should power down the model and unplug the flight battery. While it is possible to power the model up and fly again after the soft LVC occurs, this is NOT recommended as this will over-discharge the battery. **Continued discharging to the soft LVC will cause permanent damage to the Li-Po battery resulting in lost power and duration during subsequent flights, or failure of the battery entirely.** Continued attempts to further discharge the battery may also result in loss of control while the motor is running, as the voltage may drop below the minimum operating voltage of the receiver and the other electronics.

Also, you should not fly to the soft LVC every time you fly. Instead, you should be aware of the power level of the battery/airplane throughout the flight. If at any time the airplane begins to require more throttle than typical to maintain flight, you should land the airplane immediately. Routinely discharging the battery to the soft LVC can still cause permanent damage to the battery.

Note: Battery performance can suffer greatly in cooler temperatures. Batteries should be warm before flight.

Note: Always unplug the battery from the receiver after use. Never store the airplane with the battery still plugged in. Failure to follow this will cause the flight battery to over-discharge and it will become non-functional.

First Flight Preparation

Please note this checklist is not intended to be a replacement for the content included in this manual. Although it can be used as a quick start guide, we strongly suggest reading through this manual completely before proceeding.

- ❏ Remove and inspect contents.
- ❏ Install 4 AA batteries into the battery charger.
- ❏ Install 4 AA batteries into the included transmitter (RTF only).
- ❏ Begin charging the flight battery.
- ❏ Bind the receiver to your chosen Spektrum or JR DSM2 equipped transmitter (BNF only).
- ❏ Test the controls.
- ❏ Familiarize yourself with the controls.
- ❏ Confirm or set up control throws.
- ❏ Find a suitable area for flying.

Battery Charging

See the Battery Warning and Guidelines section and familiarize yourself thoroughly with it before continuing. Follow these steps to charge the Li-Po battery with the included charger.

1. Remove the cover on the bottom of the charger and install four of the included AA batteries, noting proper polarity. Replace the cover after the AA batteries are installed.
2. Slide the battery into the slot on the charger. The end cap of the battery is specifically designed to allow the battery to be slid into the slot easily one way (usually with the label on the battery facing outward) to prevent reverse polarity connection. However, check for proper alignment and polarity before proceeding to the next step.
3. Gently press the battery and its connector into the charge jack/connector located at the bottom of the slot in the charger.

4. When you make the connection successfully, the LED light on the charger turns solid red, indicating charging has begun.
5. Charging a fully discharged (not over-discharged) 70mAh battery takes approximately 30–40 minutes. As the battery nears full charge, the LED begins to blink. When the battery is fully charged, the LED light blinks approximately every 20 seconds or goes out entirely.

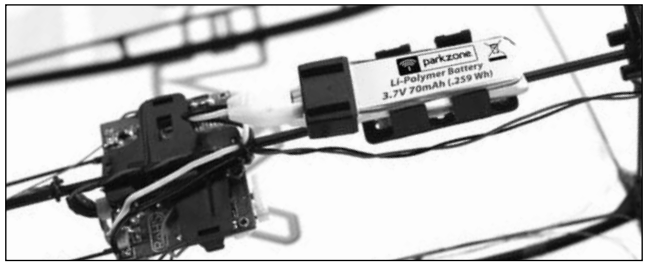
   Note: The Li-Po battery included with your Night Vapor arrives partially charged, so the initial charge may only take 15–20 minutes.

   Note: You can expect to charge the Li-Po flight battery 10–15 times before needing to replace the AA batteries in the charger. Replacing the included batteries with alkaline batteries results in more charge cycles.

   Note: If the LED remains on for longer than 40 minutes while charging and/or 5 seconds after removing the Li-Po fight battery, replace the AA batteries in the charger.

Installing the Flight Battery in the Airplane

Once the Li-Po battery is fully charged, you can install it in the airplane. This is done by placing it into the battery holder on the bottom of the fuselage. Make sure the plug faces the rear of the airplane.



Note: The battery holder can slide forward and backwards to allow for Center of Gravity adjustment.

Note: Always disconnect the Li-Po from the receiver of the airplane when not flying. Failure to do so will render the battery unusable.

Transmitter and Receiver Binding

Your Night Vapor RTF comes pre-bound to the included DSM2 transmitter. If you should need to re-bind your airplane follow the simple directions below.

Setting the Airplane for Binding

1. Make sure the flight battery is disconnected from the receiver unit and the transmitter is turned off.
2. Plug in the flight battery into the airplane. When the LED on the receiver begins to flash rapidly, then immediately proceed to instruction for your transmitter below.

Note: Although the transmitter included in your Night Vapor is 4-channel capable, the airplane is a 3-channel aircraft with proportional throttle, elevator, and rudder control. For this reason, the rudder control is on the right stick.

Binding is the process of programming the receiver of the control unit to recognize the GUID (Globally Unique Identifier) code of a single specific transmitter. It will be necessary for you to "bind" your chosen Spektrum DSM2 technology equipped transmitter to the receiver for proper operation. The following is a list of some of the Spektrum DSM2-equipped transmitters and modules that will bind to the receiver of the Night Vapor.

ParkZone Vapor Transmitter	ParkZone Ember 2 Transmitter	E-flite LP5DSM
E-flite MLP4DSM	JR X9303 2.4	JR X9503
JR 12X 2.4	Spektrum DX5e	Spektrum DX6i
Spektrum DX7/se		

Transmitter Specific Binding Instructions

MLP4DSM, Vapor, Ember 2, P-51 Transmitter

1. When you see the LED on the receiver begin to flash rapidly, push the left stick on the transmitter inward into the case (NOT pulling down on throttle stick) until you hear it click.
2. While pushing the stick in, power on the transmitter; release the stick once the transmitter is powered on. The transmitter will beep and the LED on the face of the transmitter will pulse.
3. Once the transmitter stops beeping it will take a second or two to connect with the airplane.

Note: It can be difficult at times to see the LED blink (indicating you are in bind mode), therefore slowly count to five once you have connected the battery and the airplane should enter bind mode at that time.

DX5e or DX6i

1. To bind your Night Vapor to the DX5e or the DX6i, plug the battery into the receiver of the airplane. The LED on the receiver will flash red rapidly indicating it is in bind mode.
2. Move the sticks and switches on the transmitter to the desired failsafe positions (low throttle and neutral control positions are recommended).
3. Pull and hold the Trainer Switch on the transmitter while turning the transmitter on. Release the trainer switch once the transmitter beeps.
4. The LED on the receiver will go solid red; the system will connect after several seconds.

DX7, DX7se, X9303, X9503, or 12X

1. To bind your Night Vapor to the DX7, DX7se, X9303, X9503, or 12X; plug the battery into the receiver of the airplane. The LED on the receiver will flash red indicating it is in bind mode.
2. Move the sticks and switches on the transmitter to the desired failsafe positions (low throttle and neutral control positions are recommended).
3. Press the bind button on the back of the transmitter while turning the transmitter on. The bind button on the back of the transmitter will flash. Release the button after 2–3 seconds.
4. The LED on the receiver will go solid red; the system will connect after several seconds.

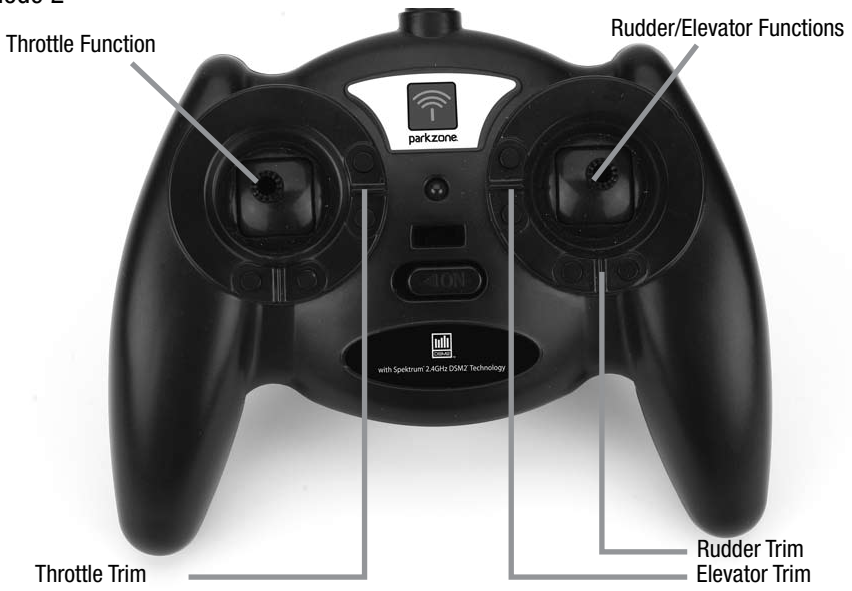
Additional Binding Information

Prior to each flight, power on your transmitter and wait for five seconds before you plug the flight battery into the receiver. This allows time for the transmitter to scan and secure two open frequencies. If you plug the flight battery in too quickly and miss the link, the receiver may inadvertently enter bind mode. If this occurs leave the transmitter on, then disconnect and reconnect the flight battery.

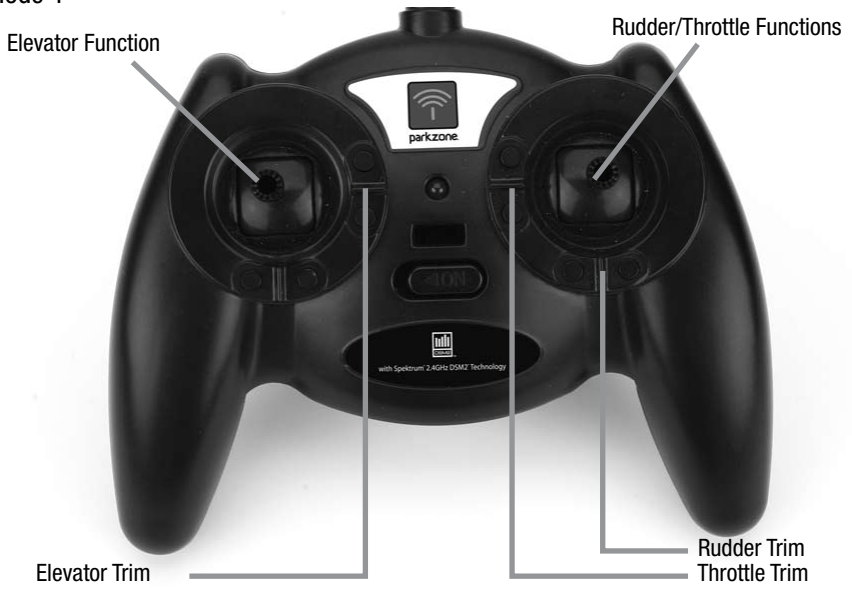
Transmitter Control Identification

Note: Before each flight you should ALWAYS turn the transmitter on before connecting the flight battery to the receiver unit. After each flight, be sure you always disconnect the flight battery from the receiver unit before powering the transmitter off.

Mode 2



Mode 1



LED Identification

The Night Vapor is equipped with six LED lights. Below is a description of what each individual light looks like.

- There are 3 LED lights on the leading edge of the wing. These lights are a bright white color and remain solid.
- There are 2 LED lights on the trailing edge of the wing. The light on the right side of the wing (looking from the front) will blink red, and the one on the left (looking from the front) will blink green.
- There is 1 LED light located near the tail of the aircraft. This light blinks blue.

Control Test

You must test the controls prior to the first flight to ensure none of the servos, linkages, or parts were damaged during shipping and handling and that the controls function in the correct directions.

Turn the transmitter on first and lower the throttle stick and trim completely. Then, plug the battery into the battery receiver unit.

Note: The connectors on the battery lead are keyed to prevent reverse polarity connection. However, if you force them together in the wrong orientation and with the wrong polarity it is still possible to damage the battery and/or receiver unit.

Move the elevator stick on the transmitter forward and back to check elevator pitch control. When the stick is pushed forward the elevator should move down.

When the elevator stick is pulled back, the elevator should move up.

Move the rudder stick left and right to check yaw control. When the stick is pushed to the right, the rudder should also move right.

Note: On 3-channel aircraft, like the Vapor, the rudder is controlled by the stick usually used by the ailerons on 4-channel aircraft.

With the rudder stick pushed to the left, the rudder should move left.

If at any time during the test the controls respond in the opposite direction of operation of the flight controls, follow your transmitter's instructions to reverse the flight controls.

Once you've confirmed the flight control directions, all controls should be functioning properly. However, if you continue to encounter problems with your Night Vapor responding properly to the transmitter, do not fly.

Digital Trims

The ParkZone 4-channel 2.4GHz DSM2 transmitter features digital trim buttons on all controls to make fine adjustments. Center the control surfaces using the trims. If there is not enough electronic trim available, it may be necessary to adjust the loops in the control linkages to center the surfaces.

Reversing the Flight Controls

The transmitter included with the Night Vapor is the same transmitter included in the PKZ Ember 2, Vapor, and Ultra Micro RTF versions. It also functions identically to the transmitter included with the E-flite mCX and mSR (MLP4DSM).

Note: For reversing with other transmitters, please refer to that transmitter's instruction manual.

Should the Night Vapor's electronic components be used in another aircraft, you may find it necessary to reverse the operation of flight control surfaces.

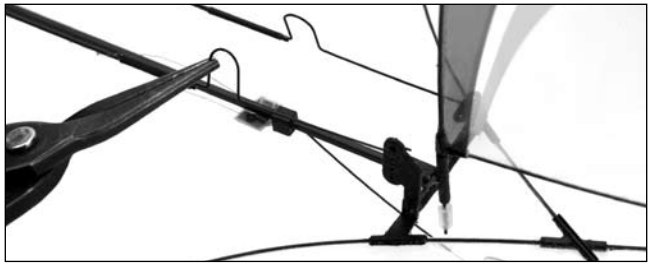
Reversing the rudder and elevator operation can be accomplished by following the steps below.

1. Be certain the battery is unplugged from the aircraft and the transmitter turned off.
2. Push down on the digital trim button for the surface you would like to reverse.
   a. Top elevator trim button—elevator normal
   b. Bottom elevator trim button—elevator reverse
   c. Left rudder trim button—rudder normal
   d. 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 buttons down for approximately five seconds until tones are heard, confirming the selection.
5. Connect the flight battery and complete the flight control test, confirming all surfaces are operating in the correct direction.

Control Centering

In the event of an accident or before your first flights, check to make sure the flight control surfaces are centered. It is much better to do this mechanically due to the mechanical limits of linear servos.

1. Make sure the transmitter trims are centered, and if your transmitter has them, sub-trims are set to 0.
2. Check to see if any of the flight control surfaces are not centered.
3. If the surface is not centered, use a pair of pliers and carefully lengthen or shorten the pushrod by bending the U-shape in the pushrod.



Dual Rate Function (RTF Only), and CG

The 4-channel 2.4GHz DSM2 transmitter included with the Night Vapor features dual rate capability. The default setting is high rate. To access the low-rate function, press IN on the right gimbal. The LED light on the transmitter will blink, alerting you the transmitter is on low rate. To return to high rate, push IN again on the right stick.

Note: ParkZone STRONGLY recommends using the LOW-RATE setting for conducting the first flight of your Night Vapor.

Center of Gravity

The Night 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 battery tray positioned at approximately 10–12mm behind the front wing mount. The Night 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 "trim" to the elevator to bring the nose up slightly in flight. This allows the airplane to fly even slower.

Receiver Control Unit Description, Arming and Motor Control Test

The receiver installed on your Night Vapor is a lightweight combination of main motor electronic speed control, servos and Spektrum DSM2-compatible receiver. The receiver unit is also equipped with a status indicator LED.

Before each flight ALWAYS turn the transmitter on before connecting the flight battery to the receiver unit. Never connect the flight battery to the receiver unit before powering the transmitter on. After each flight, always disconnect the flight battery from the receiver unit before powering the transmitter off.

Note: The only time you should connect the flight battery to the receiver unit before powering on the transmitter is when binding the receiver to the transmitter. Please see the Transmitter and Receiver Binding section of this manual for more information.

The following checklist contains the steps to ensure proper arming and operation of the receiver unit, as well as the proper motor response.

- The throttle stick MUST be set in the lowest possible position, and for most transmitters, the throttle trim must also be set to the lowest possible position in order for the receiver unit to arm. If this is the first test flight, or a test flight following repairs, you should also center the rudder, elevators, and aileron trims.
- When the status LED on the receiver becomes solid blue, the receiver unit is initialized and ready for flight. Also, as long as you had the throttle stick in the idle position and the throttle trim in the lowest possible position during initialization process, the ESC/motor will now be armed. Use caution as the propeller will spin with throttle stick input.

  Note: If the status LED on the receiver does not become solid blue, review the following.
- If after blinking red the status LED becomes solid blue, but you have no control of the motor, you have a positive Radio Frequency (RF) link between the transmitter and receiver, but the throttle stick and throttle trim may not be set to the correct positions. Check that the throttle stick is in the lowest possible position, and that the throttle trim is set to the middle or a lower-than-middle position. If you now have control of the motor proceed to the next step of the checklist.
- If the blinking blue status LED keeps flashing, you do not have a positive RF link between the transmitter and receiver. Check to be sure the transmitter has been powered on. If the transmitter is powered on and functioning properly, disconnect the flight battery from the receiver unit, then reconnect it. The receiver unit should initialize and arm properly.

  Note: If you inadvertently enter Bind Mode, the LED on the receiver flashes red continuously. If this occurs cycle the flight battery while the transmitter is on (if previously bound). If your receiver will not initialize and arm after following the guidelines listed above, then rebind the receiver.

Once you place the airplane in a safe area, free of obstructions, and are clear of the propeller, you can safely begin to power up the model for proper operation of the motor.

- Advance the throttle stick upward slowly, just until the propeller begins to spin, DO NOT attempt to fly the airplane at this time. Note the direction the propeller spins. If viewed from the front of the airplane, the propeller will spin counterclockwise. If it is spinning backwards, disconnect the battery and reverse the polarity of the motor's input power leads.

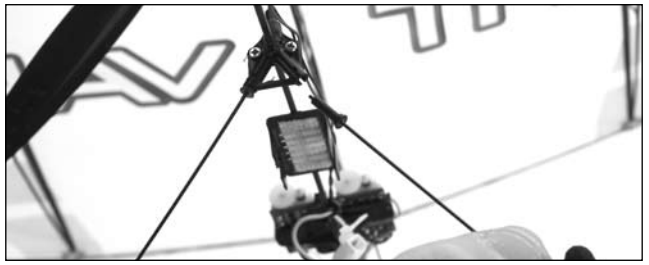
Flying Checklist

- ❏ Always turn the transmitter on first.
- ❏ Plug the flight battery into the lead from the receiver.
- ❏ Allow the receiver to initialize and arm properly.
- ❏ Fly the model.
- ❏ Land the model.
- ❏ Unplug the flight battery from the receiver.
- ❏ Always turn the transmitter off last.

Replacing/Removing the Landing Gear

To remove the landing gear, follow these steps:

1. Gently grasp the landing gear base and pull the landing gear out of the mounts.



Note: It may be difficult to remove the landing gear the first time.

2. Push the new landing gear legs into the mounting columns until the landing gear clicks into place.

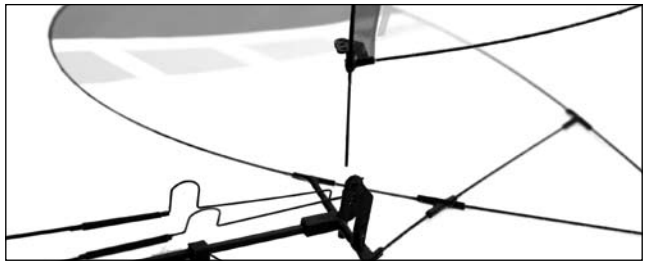
Note: For slower flight, the model can be flown without the landing gear if desired. It is recommended to slide the battery forward to compensate for the weight of the landing gear.

Replacing the Vertical Fin

To replace the vertical fin on your Night Vapor, follow the steps listed below.

1. Gently remove the clear pressure fitting tube located on the bottom of the aircraft.

2. Gently disconnect the pushrod from the control horn.
3. Slide the vertical fin out of the mounting column.



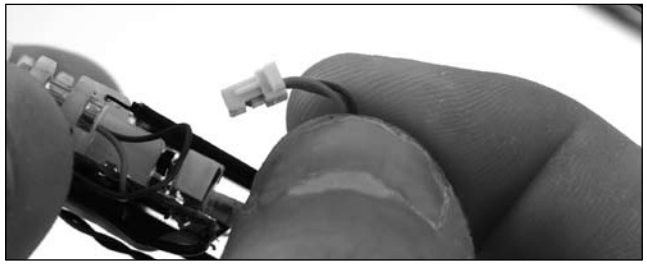
4. Reconnect the pushrod to the new vertical fin, and slide the vertical fin into the housing.
5. Slide the clear pressure fitting tube back into place.

Note: When replacing the pressure fitting tube, do not jam it against the column; this will not allow the vertical fin to move freely throughout its range of motion.

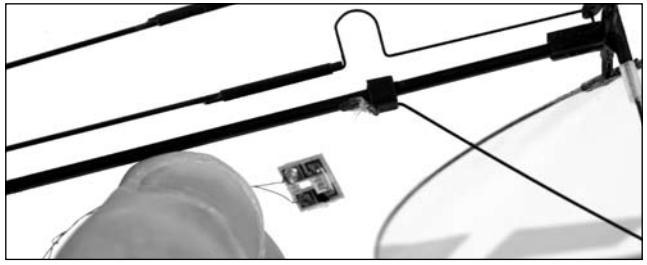
Replacing the Wing

All LEDs on the wing are permanently attached. The new wing will include a new set of LEDs. To replace the wing follow the steps below:

1. Disconnect the main LED wire from the receiver board.

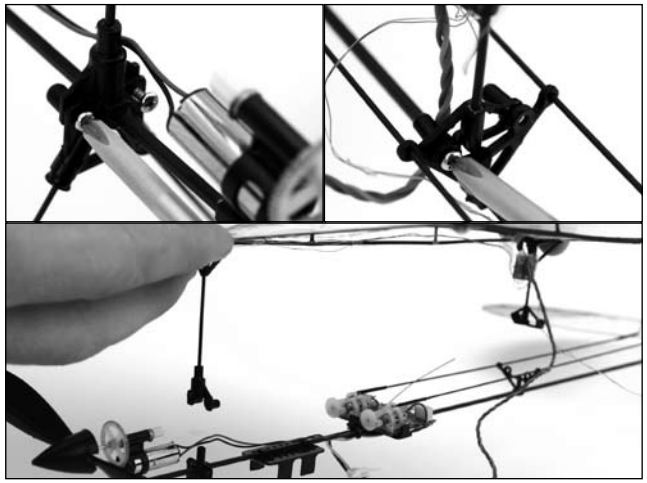


2. Remove the LED that is attached to the tail of the aircraft.



Note: The LED is tack glued to the fuselage and it will be necessary to very carefully break the glue joint loose.

3. Loosen the four screws on the wing mounting columns, and gently pull the wing off.



4. Slide the new wing back into place, and tighten the wing to the mounting columns.
5. Install the LED located near the tail, and tack glue it into place. Then, reconnect the main LED wire to the receiver board.

Note: Use only a very small amount of hot glue or rubber cement to attach the LED to the fuselage. Other adhesives may damage the LED.

Replacing the Propeller

The propeller is threaded onto the shaft of the gearbox.

1. To remove the propeller, use needle-nose pliers or hemostats to grip the shaft.

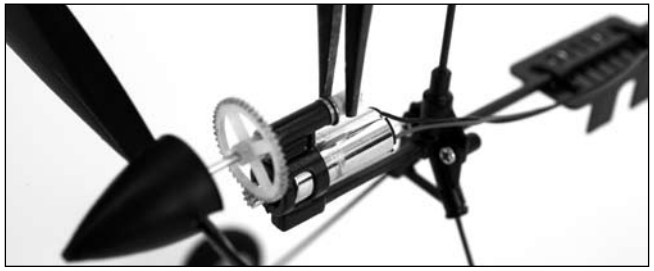
2. Spin the propeller counterclockwise to remove the old propeller.

3. Thread the new 140mm x 45mm prop and spinner clockwise onto the gearbox shaft.

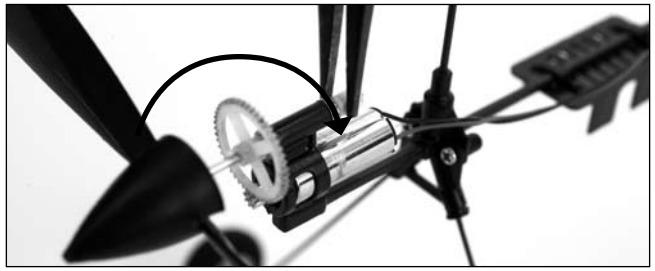
Replacing the Prop Shaft

You may need to replace the prop shaft in the gearbox should it become damaged. To replace the prop shaft:

1. Gently grasp the white nylon nut located at the back of the prop shaft using needle-nose pliers or hemostats.

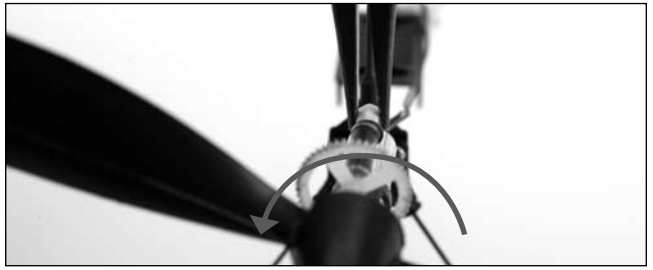


2. While holding the nylon nut, rotate the spur gear clockwise. The prop shaft will thread out of the nut.



3. Gently pull on the spur gear and the prop shaft will slide out of the gearbox.
4. Thread the 140mm x 45mm prop and spinner onto the new prop shaft by holding the spur gear and turning the prop clockwise.

5. Slide the new prop shaft into the gearbox.
6. Place the nylon nut on the back of the prop shaft. Spin the prop and spur gear counterclockwise. The nylon nut will thread onto the prop shaft.



7. While holding the nylon nut in place, gently turn the spur gear counterclockwise to ensure the nut is snug.

Replacement Parts

PKZ3001. . . . . 3.7V 70mAh Li-Po Battery
PKZ3240. . . . . DC 3.7V LiPo Charger
PKZ3302. . . . . Propeller with Spinner (140mm x 45mm)
PKZ3307. . . . . Tail Skid: Vapor/Night Vapor
PKZ3316. . . . . Main Motor: Vapor/Night Vapor
PKZ3322. . . . . Pushrod Set: Vapor/Night Vapor
PKZ3327. . . . . Gearbox without Motor: Vapor/Night Vapor
PKZ3328. . . . . Prop Shaft with Gear (2): Vapor/Night Vapor
PKZ3341. . . . . Transmitter, 2.4GHz with Spektrum DSM2
PKZU1106 . . . . . Main Landing Gear Set: Night Vapor
PKZU1120 . . . . . Main Wing with Lights: Night Vapor
PKZU1124 . . . . . Horizontal Stabilizer: Night Vapor
PKZU1125 . . . . . Rudder: Night Vapor
PKZUA1151 . . . . . 3-Ch Rx/ESC with LED port, DSM2
PKZU1161 . . . . . Fuselage with Electronics: Night Vapor
PKZU1170 . . . . . Replacement Airframe (no electronics or motor): Night Vapor
PKZU1167 . . . . . Bare Fuselage: Night Vapor
EFLH1066. . . . . Replacement Servo Mechanics
EFLH1067. . . . . Replacement Servo Retaining Collars

Optional Parts

PKZ3052. . . . . Battery Connector with Wire
EFLB1201S. . . . . 120mAh 3.7V 14C Li-Po Battery*
EFLB1501S. . . . . 150mAh 3.7V 12C Li-Po Battery*
EFLC1004. . . . . 4-Port 3.7V Li-Po Charger
EFLC1005. . . . . AC to 6V DC Adapter (United States)
EFLC1005AU. . . . . AC to 6V DC Adapter (Australia)
ELFC1005EU. . . . . AC to 6V DC Adapter (Europe)
EFLC1005UK. . . . . AC to 6V DC Adapter (United Kingdom)
SPM6825 . . . . . Linear Servo Reverser
SPMR5500 . . . . . DX5e 5-Channel Transmitter Mode 2
SPMR55001 . . . . . DX5e 5-Channel Transmitter Mode 1
SPMR6600 . . . . . DX6i 6-Channel Transmitter Mode 2
SPMR66001 . . . . . DX6i 6-Channel Transmitter Mode 1
SPMR6600E . . . . . DX6i 6-Channel Transmitter Mode 2 (Europe)
SPMR66001E . . . . . DX6i 6-Channel Transmitter Mode 1 (Europe)
SPMR7700 . . . . . DX7 7-Channel Transmitter Mode 2
SPMR77001 . . . . . DX7 7-Channel Transmitter Mode 1
SPMR7700E . . . . . DX7 7-Channel Transmitter Mode 2 (Europe)
SPMR77001E . . . . . DX7 7-Channel Transmitter Mode 1 (Europe)

*Note: For longer flight times try using a larger capacity high-quailty battery such as the E-Flite 120mAh (EFLB1201S) or 150mAh (EFLB1501S) Li-Po batteries.

Troubleshooting Guide

If you have any problems with setup or programming that cannot be fixed by the Troubleshooting Guide, please see page 23 and call the appropriate Horizon Product Support office.

Problem	Possible Solutions
Aircraft will not “throttle up” but all other controls seem to function.	Lower throttle trim and/or throttle stick to their lowest settings. Reverse throttle channel on specific transmitter if applicable.
Propeller or motor shaft is broken.	Replace with Prop with Spinner (PKZ3302) or Prop Shaft (PKZ3328).
Aircraft appears to show significant decrease in flight time.	Recharge flight battery completely. Replace AA batteries in charger or use AC to 6V DC Adapter and recharge flight battery completely. Replace PKZ3001 battery and read the “Battery Warnings and Guidelines” section of manual.
Charger light stays on after Li-Po battery is disconnected, or remains on for longer than 40 minutes when charging.	Replace AA batteries in charger.
Aircraft appears to have less power.	Lubricate the bushings of the gearbox. Lubricate the bushings of the motor. In cold weather, prior to flight, make sure the flight batteries are warm. Use a larger capacity battery (unless it will not physically fit without modification).
LED on aircraft remains flashing and cannot be controlled by transmitter.	Unplug and reconnect flight battery. Move transmitter (powered on) a few feet from the aircraft prior to reconnecting the flight battery. Move transmitter and aircraft away from large metal objects when binding/linking. Rebind the aircraft to the desired compatible transmitter.
LED on aircraft will not illuminate.	Replace with Main Wing with Lights (PKZU1120)
Aircraft appears to roll, yaw and pitch towards a certain direction.	Trim control surfaces using the transmitter until the aircraft no longer moves that direction.
Controls appear to be reversed after binding to a different transmitter.	Read the “Control Test” section of manual.
Aircraft does not function after connecting flight battery and the aircraft smells burnt.	Replace the PKZUA1151 receiver board and check for correct polarity when connecting the flight battery.

Warranty and Repair Policy

Warranty Period: Exclusive Warranty- Horizon Hobby, Inc., (Horizon) warranties 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: Horizon reserves the right to change or modify this warranty without notice and disclaims all other warranties, express or implied.

(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.

(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).

Warranty Services

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 Product Support representative.

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.

Country of Purchase	Horizon Hobby	Address	Phone Number/ Email
United States	Horizon Service Center (Electronics and engines)	4105 Fieldstone Rd Champaign, Illinois 61822 USA	877-504-0233 productsupport @horizonhobby.com
	Horizon Product Support (All other products)	4105 Fieldstone Rd Champaign, Illinois 61822 USA	877-504-0233 productsupport @horizonhobby.com
United Kingdom	Horizon Hobby Limited	Units 1-4 Ployters Rd Staple Tye Harlow, Essex CM18 7NS United Kingdom	+44 (0) 1279 641 097 sales @horizonhobby.co.uk
Germany	Horizon Technischer Service	Hamburger Str. 10 25335 Elmshorn Germany	+49 4121 46199 66 service @horizonhobby.de
France	Horizon Hobby SAS	14 Rue Gustave Eiffel Zone d'Activité du Réveil Matin 91230 Montgeron	+33 (0) 1 60 47 44 70

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.

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 2.400GHz to 2.4835GHz frequency range.

Compliance Information for the European Union

Declaration of Conformity
(in accordance with ISO/IEC 17050-1)

No. HH20100032401

Product(s): PKZ Night Vapor RTF
Item Number(s): PKZU1100

Equipment class: 1

The object of declaration described above is in conformity with the requirements of the specifications listed below, following the provisions of the European R&TTE directive 1999/5/EC:

EN 300-328	**Technical requirements for Radio equipment.**
EN 301 489-1, 301 489-17	**General EMC requirements**
EN 60950	**Safety**

Signed for and on behalf of:
Horizon Hobby, Inc.
Champaign, IL USA
March 24, 2010

Steven A. Hall
Vice President
International Operations and Risk Management
Horizon Hobby, Inc.

Declaration of Conformity
(in accordance with ISO/IEC 17050-1)

No. HH2010032402

Product(s): PKZ Night Vapor BNF
Item Number(s): PKZU1180

Equipment class: 1

The object of declaration described above is in conformity with the requirements of the specifications listed below, following the provisions of the European R&TTE directive 1999/5/EC:

EN 301 489-1, 301 489-17	**General EMC requirements**

Signed for and on behalf of:
Horizon Hobby, Inc.
Champaign, IL USA
March 24, 2010

Steven A. Hall
Vice President
International Operations and Risk Management
Horizon Hobby, Inc.

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 collection 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.

ParkZone® products are distributed exclusively by Horizon Hobby, Inc.

US patents D578,146. 7,391,320.

PRC patent number ZL 2007 2 0069025.2

Other patents pending