

ARES

GAMMA *PRO V2*

Instruction Manual



Wingspan	37.00 in. (940mm)
Wing Chord	7.50 in. (190.5mm)
Wing Area	254 sq. in.
Length	30.6 in (775mm)
Flying Weight	18 oz. (510 grams)
Battery	3S 1000mAh w/HCT
Motor	1250Kv Brushless
ESC	20A Brushless w/BEC
Prop	8 x 4

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INTRODUCTION

Offering a perfect combination of stability and durability, while also delivering powerful flight performance, the Ares Gamma Pro V2 is not only a great choice for first-time pilots but also an exceptional model for experienced sport flyers, too. Like the popular Gamma 370 V2, the Pro starts with an advanced EPO airframe that's lightweight, tough, and comes practically ready to fly, right out of the box. The Gamma Pro V2 also has the same great flying characteristics of the Gamma 370 V2, but adds aileron control and brushless power. With these added features, the Gamma Pro V2 has the capability to take you from tentative first circuits to accomplished aerobatics.

If you want to learn to fly on the Gamma Pro V2, the technology in the pre-installed Aegis NFP (Natural Flight Progression) system gives you the helping hand you need to be successful. It offers three different flying modes (Beginner, Intermediate, and Unassisted) you can progress through as your flying skills advance. In Beginner mode, the bank angle is restricted to help you make coordinated turns, while Intermediate mode allows a greater bank angle and introduces you to how the rudder can help with handling. If you feel you've lost control of the plane in either mode, just let go of the sticks and it quickly returns to level flight. Plus, when you're ready to fly in Unassisted mode and branch into aerobatics, the technology is still there to "rescue" the model if you get into trouble – just flip the NFP switch to Beginner or Intermediate and you're back in controlled level flight. The NFP system in the Pro V2 even helps you show off to your flying buddies when you use the Auto-Roll and Stabilized Inverted-Flight features. And for even more flying fun, just add one of the aftermarket 'plug-in' options for the Gamma Pro V2; either a float kit that enables the Pro V2 to quickly and easily be converted into a powerful seaplane, or a HD camera (AZSZ2544) that allows you to take aerial photos and videos from the plane.

In addition to that great list of features, the Gamma Pro V2 incorporates the reliable new Hitec Red 2.4GHz radio protocol that's compatible with most Hitec systems already on the market. The Gamma V2 can be purchased in two convenient forms, both incorporating the Hitec Red protocol: either Ready-To-Fly (including a Hitec Red-enabled transmitter and receiver) or Pair-To-Fly (packaged with a Hitec Red receiver that's compatible with your existing Hitec air transmitter).

SAFETY PRECAUTIONS

Failure to use this product in the intended manner as described in the following instruction can result in damage and/or personal injury. A Radio Controlled (RC) airplane/helicopter/quadcopter is not a toy! If misused it can cause serious bodily harm and damage to property.

Keep items that could become entangled away from the propeller, including loose clothing, tools, etc. Be especially sure to keep your hands, face and other parts of your body away from the propeller.

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

This model is controlled by a radio signal that is subject to possible interference from a variety of sources outside your control. This interference can cause momentary loss of control so it is advisable to always keep a safe distance from objects and people in all directions around your model as this will help to avoid collisions and/or injury.

GENERAL PRECAUTIONS

- Never operate your model if the voltage of the batteries in the transmitter is too low.
- Always operate your model in an open area away from obstacles, people, vehicles, buildings, etc.
- Carefully follow the directions and warnings for this and any optional support equipment. (chargers, rechargeable batteries, etc.).
- Keep all chemicals, small parts and all electronic components out of the reach of children.
- Moisture causes damage to electronic components. Avoid water exposure to all electronic components, parts, etc. not specifically designed and protected for use in water.

FCC INFORMATION

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.

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

GAMMA PRO V2 RTF CONTENTS

Item	Description
Not Available Separately	Gamma Pro V2 RTF Airframe
KNNA1003	6-Channel Airplane Transmitter w/NFP, 2.4GHz, Mode 2
Not Available Separately	AA Batteries (8pcs)
AZSB10003S20D.....	1000mAh 3-Cell/2S 11.1V 20C LiPo Battery, T-Connector
AZSC308C	3-Cell/3S 11.1V LiPo, 0.8 DC Balancing Charger
AZSC1308PS	100-120V AC to 13V DC Adapter, 0.8A Power Supply



Gamma PRO V2 PTF CONTENTS

Item	Description
Not Available Separately	Gamma Pro V2 PTF Airframe W/Hitec Red Receiver

REQUIRED TO COMPLETE PTF

Item	Description
Hitec 2.4GHz Transmitter	6 channel minimum

LiPo BATTERY WARNING

IMPORTANT NOTE: Lithium Polymer batteries are significantly more volatile than the alkaline, NiCd or NiMH batteries also used in RC applications. All instructions and warnings must be followed exactly to prevent property damage and/or personal injury as mishandling of LiPo batteries can result in fire. By handling, charging or using the included LiPo battery you assume all risks associated with LiPo batteries. If you do not agree with these conditions please return the complete product in new, unused condition to the place of purchase immediately.

- You **MUST** charge the LiPo battery in a safe area away from flammable materials.
- **NEVER** charge the LiPo battery unattended at any time. When charging the battery you should **ALWAYS** remain in constant observation to monitor the charging process and react immediately to any potential problems that may occur.
- After flying/discharging the battery you must allow it to cool to ambient/room temperature before recharging.
- To charge the LiPo battery you **MUST** use only the included 305C balance charger or suitable LiPo battery charger. Failure to do so may result in a fire causing property damage and/or personal injury. **DO NOT use a NiCd or NiMH charger.**
- If at any time during the charge or discharge 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, open area away from flammable materials to observe 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 service completely.
- Store the battery at room temperature, approximately 68–77° Fahrenheit (F), and in a dry area for best results.
- When transporting or temporarily storing the battery, the temperature range should be from approximately 40–100°F. Do not store the battery or model in a hot garage, car or direct sunlight whenever possible. **If stored in a hot garage or car the battery can be damaged or even catch fire!**
- Do not over-discharge the LiPo battery. Discharging the LiPo battery too low can cause damage to the battery resulting in reduced power, flight duration or failure of the battery entirely.

LiPo cells should not be discharged to below 3.0V each under load. In the case of the 3-Cell/2S 11.1V LiPo battery used to power the Gamma Pro V2, you will not want to allow the battery to fall below 9.0V during flight.

The electronic speed control (ESC) has low voltage cutoff (LVC) protection. When the flight battery voltage drops below a set point the throttle gradually is reduced. At this point the airplane will need to be landed and the battery recharged.

LiPo BATTERY CHARGING



Plug power supply into 308C charger. Plug power supply into main AC power.



Plug 4-pin balance connector of flight battery into 308C charger.



Maintain correct polarity when plugging in 4-pin balance connector.



Both red and green LED's will light during charge. Only green LED will remain lit when charge is complete.

Important Charging Notes

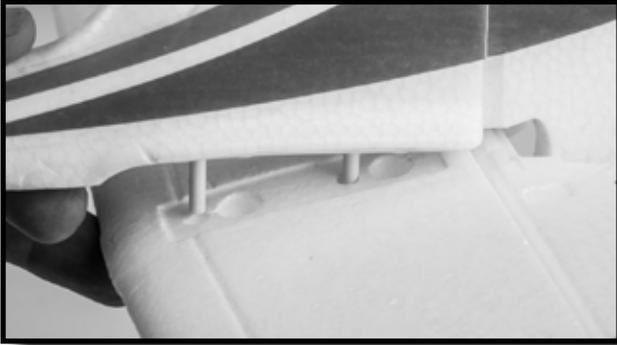
PLACE THE 308C CHARGER ON A FLAT, SMOOTH AND HEAT-RESISTANT SURFACE.

It's important that air is able to circulate through the charger during the charging process in order to keep it from over-heating. It's especially important that the vent openings on the bottom and sides of the charger are not blocked. DO NOT place the charger on carpeted or other similar surfaces that may block the vent openings. Also, DO NOT place the charger in direct sunlight before, during or after use.

It will take approximately 1 to 1-1/2 hours to fully charge a mostly discharged flight battery.

For faster charging see the Radiant Ascend AC-DC charger available at your local Hobby Town store.

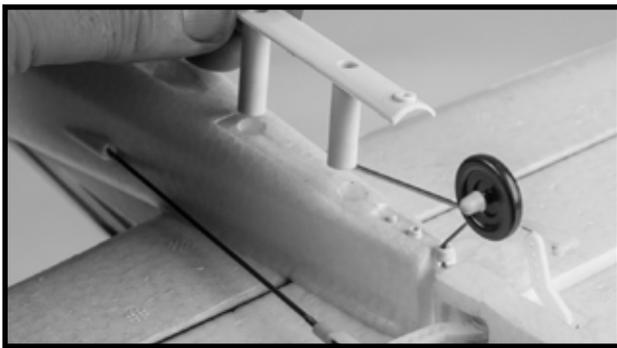
AIRPLANE ASSEMBLY



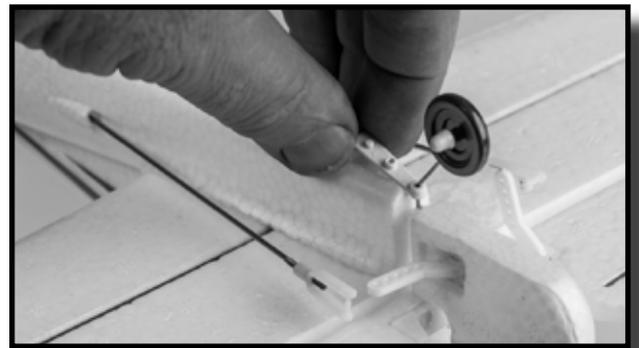
Assemble the vertical tail to the horizontal tail.



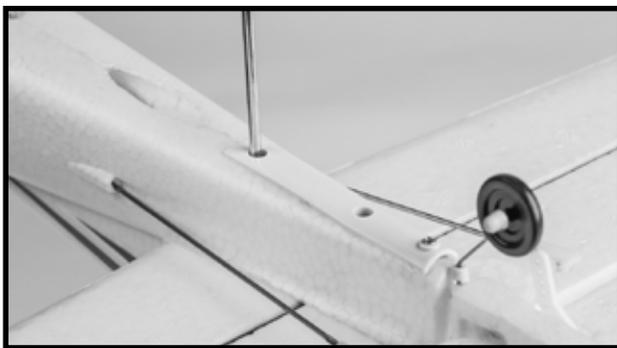
Place the tail assembly into position on the fuselage.



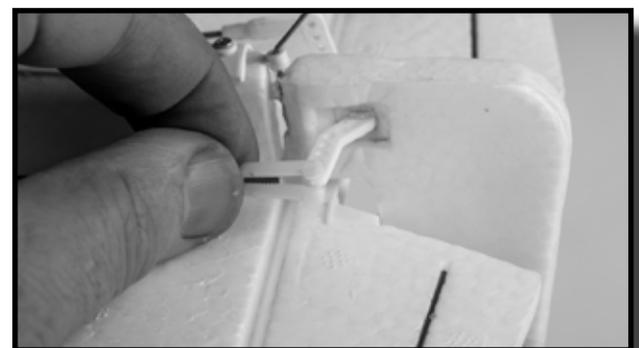
Insert the two 5/16" (8mm) long screws from the tail screw bag into the holes on fuselage bottom and tighten.



Install the tail wheel bracket with two small screws.



Connect the plastic clevis to the rudder control horn in the outermost hole and snap closed. Repeat for elevator clevis.



Slip plastic clevis keeper onto clevis. This is to prohibit the clevis from popping open during flight.



Photo shows clevis connected to the elevator control horn in the outermost hole. The clevis keeper is in correct position.

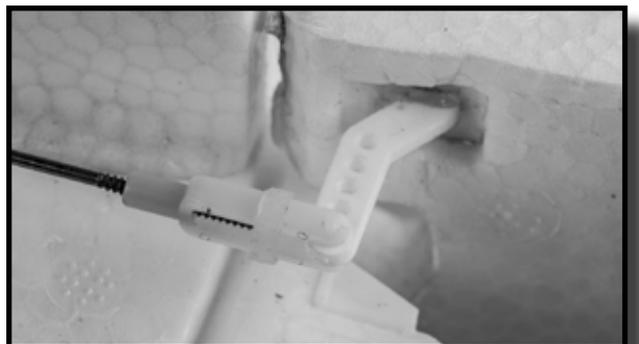


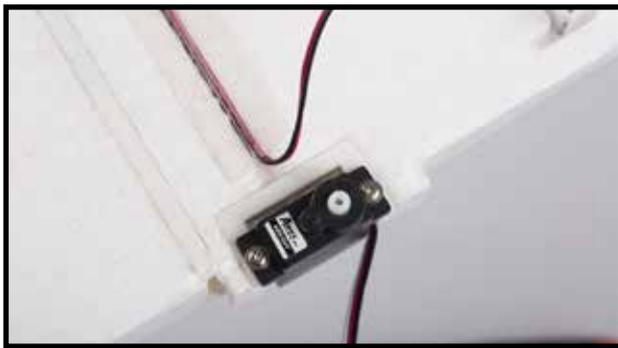
Photo shows clevis connected to the rudder control horn in the outermost hole. The clevis keeper is in correct position.



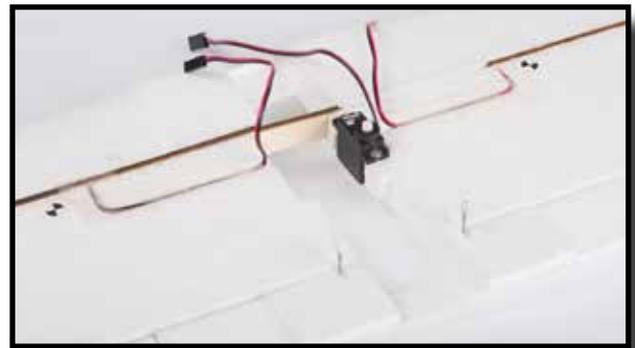
Locate the landing gear assembly and insert into slot at the rear of the battery box.



Using two washer head screws, secure the landing gear to the fuselage.



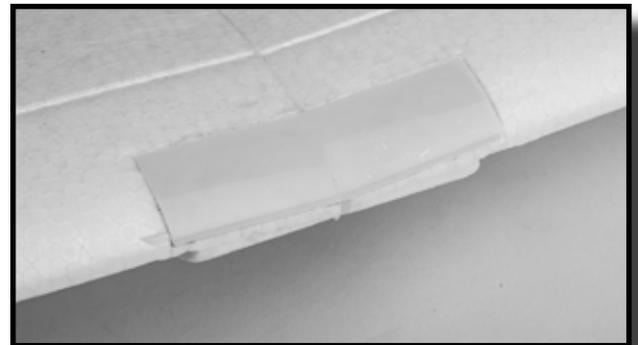
Locate the main wing halves.



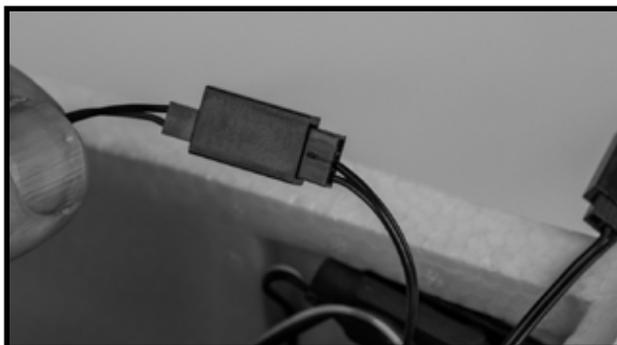
Slide the two halves partially together. Make sure that the LED and servo wires are not pinched between the wing halves.



Peel the backing from the double stick tape on the plastic reinforcements.



Slide the wing halves completely together and press the plastic parts firmly to the wing surface.



Locate the LED wiring Y-connector and plug in the wing LEDs, making sure to maintain correct orientation of the plugs.



See page 11 for NFP Board Layout and Orientation

Plug the aileron into the aileron channel on the NFP board. Tuck the wires into the fuselage while fitting the wing into position.



Install 4 of the rubber bands to secure the wing as shown in the photo above.



The photo above shows the correct order of installation for the propeller. Install collet back plate on collet adapter.



Slip collet adapter onto motor shaft followed by spinner backplate, propeller and prop nut. Tighten nut and install spinner nose piece.



Completed installation should look like photo above.

NOTE: DO NOT install prop until after initial aircraft setup and testing.

INSTALLING FLIGHT BATTERY



The included 1000mAh 3-cell 11.1V LiPo battery is a perfect fit for the battery box located on the bottom of the fuselage. The flight battery installs with the base of the battery facing forward. Plug the balance connector wires into the LED Y-connector to light the LEDs. Plug the female HCT connector from the flight battery into the male HCT connector from the ESC. Once correctly plugged in, the wires can be tucked into the battery box and the battery hatch door can be re-installed and snapped into place. The servos are active at this point and the motor is armed.

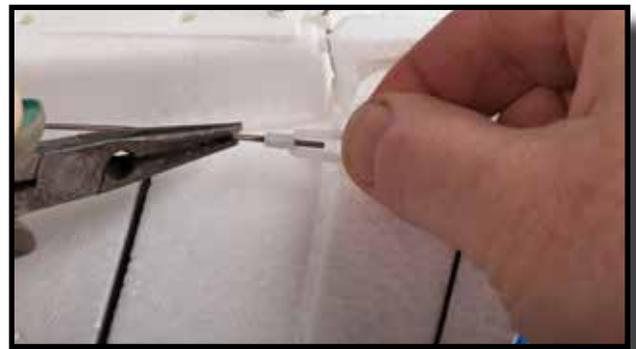


FLIGHT CONTROLS

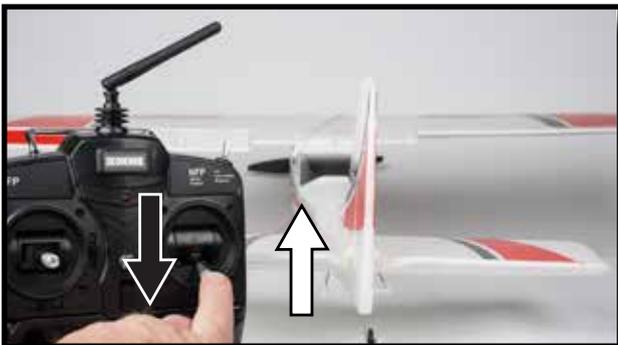
Before your first flight it is important to mechanically center all your control surfaces to their neutral positions. This is done with the NFP switched OFF. Turn the transmitter ON with the throttle stick in the lowest (OFF) position and the NFP switch in the OFF (away) position. Plug in the flight battery. This will initialize the servos and arm the motor. Center the 4 trim sliders, they emit a longer beep when reaching the center position. The control surfaces for the aileron, elevator and rudder should be in their neutral position and not deflected in any direction. If they are not in their neutral position you will need to adjust the length of the pushrod by screwing the clevis in or out. To open, gently pry the clevis arms apart using a flat blade screwdriver. Disengage the clevis from the control horn and screw in or out as appropriate so that when re-attached to the control horn the control surface is in its neutral position. When satisfied that they are correct, snap the clevis's shut and slide the clevis keepers back into position to keep them secure. When the mechanical centering is complete it will be necessary to check the centering and movement of the control surfaces when the NFP (Natural Flight Progression) is switched ON. This is covered in the next section.



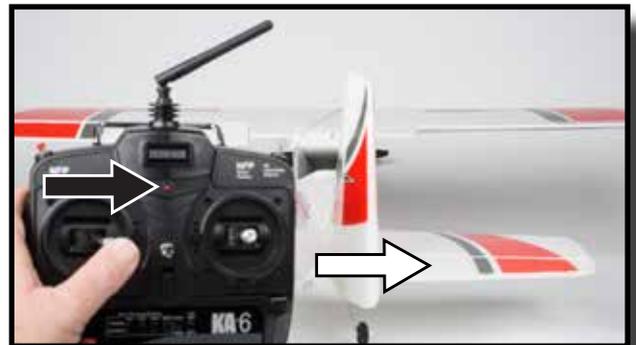
Center all on the trim sliders on the transmitter to their neutral positions and lower the throttle stick to off.



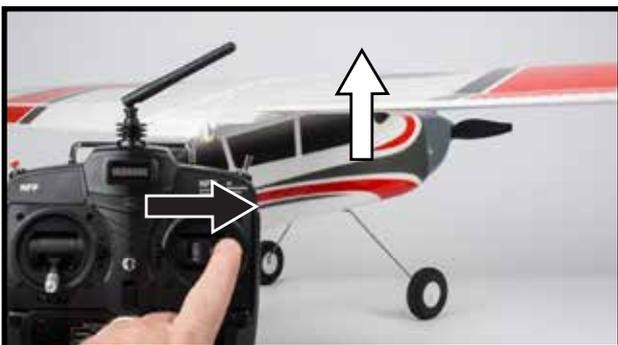
Adjust the clevis in or out by screwing until the control surface is at neutral when clevis is attached.



Check that the control surface movement is in the correct direction. When the elevator stick is down the elevator moves up. When the elevator stick is moved up, the elevator moves down.

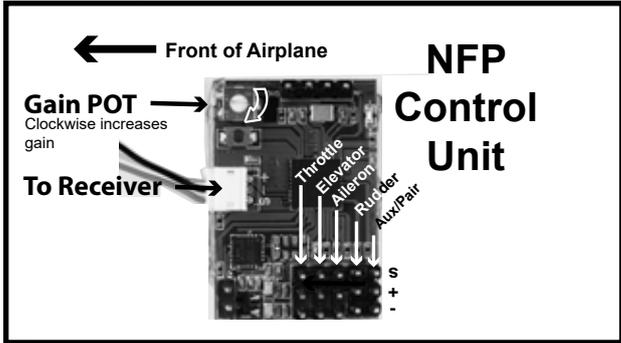


When the rudder stick is moved to the right, the rudder moves to the right. When the rudder stick is moved left the rudder moves left.

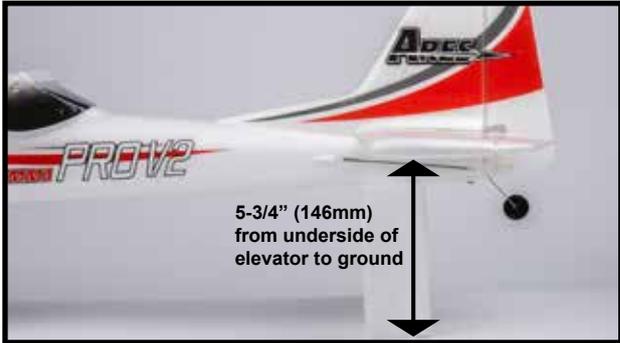


When the aileron stick is moved to the right, the right aileron moves up while the left one moves down. When the aileron stick is moved to the left, the left aileron moves up while the right one moves down.

NFP SETUP



The NFP Control Unit is pre-installed in your Gamma Pro V2. Refer to the photo above for channel assignments.



You need to check the NFP centering, prop the tail of the airplane up to flying position, about 5-3/4" to underside of stabilizer.



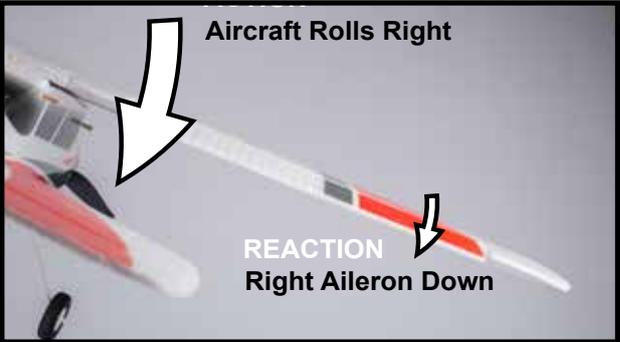
With the aircraft powered on and initialized, flip the NFP switch into Beg or Intermediate. Did the elevator move up or down?



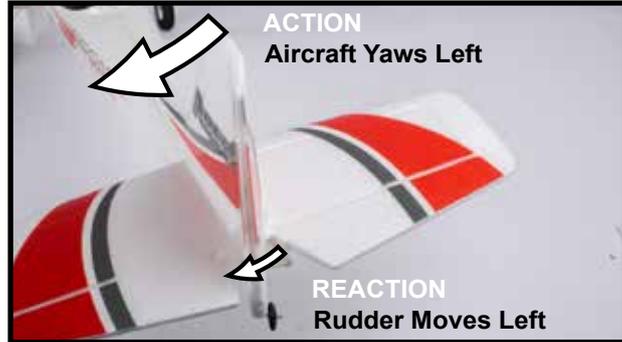
If the elevator moved down, press and hold the NFP Button and move the elevator stick from center to down several times.

Release the NFP button and see if the elevator is in neutral. Repeat these steps with aileron and rudder until all control surfaces are neutral both in and out of NFP mode.

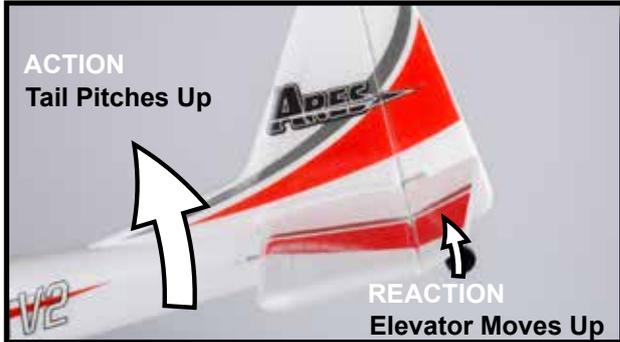
Check the reaction of the control surfaces when NFP is active. The following 3 steps show the aircraft action and the correct reaction that the NFP system will initiate.



Hold the aircraft level and then roll it to the right quickly. The right aileron should go down to raise the wing back to level.

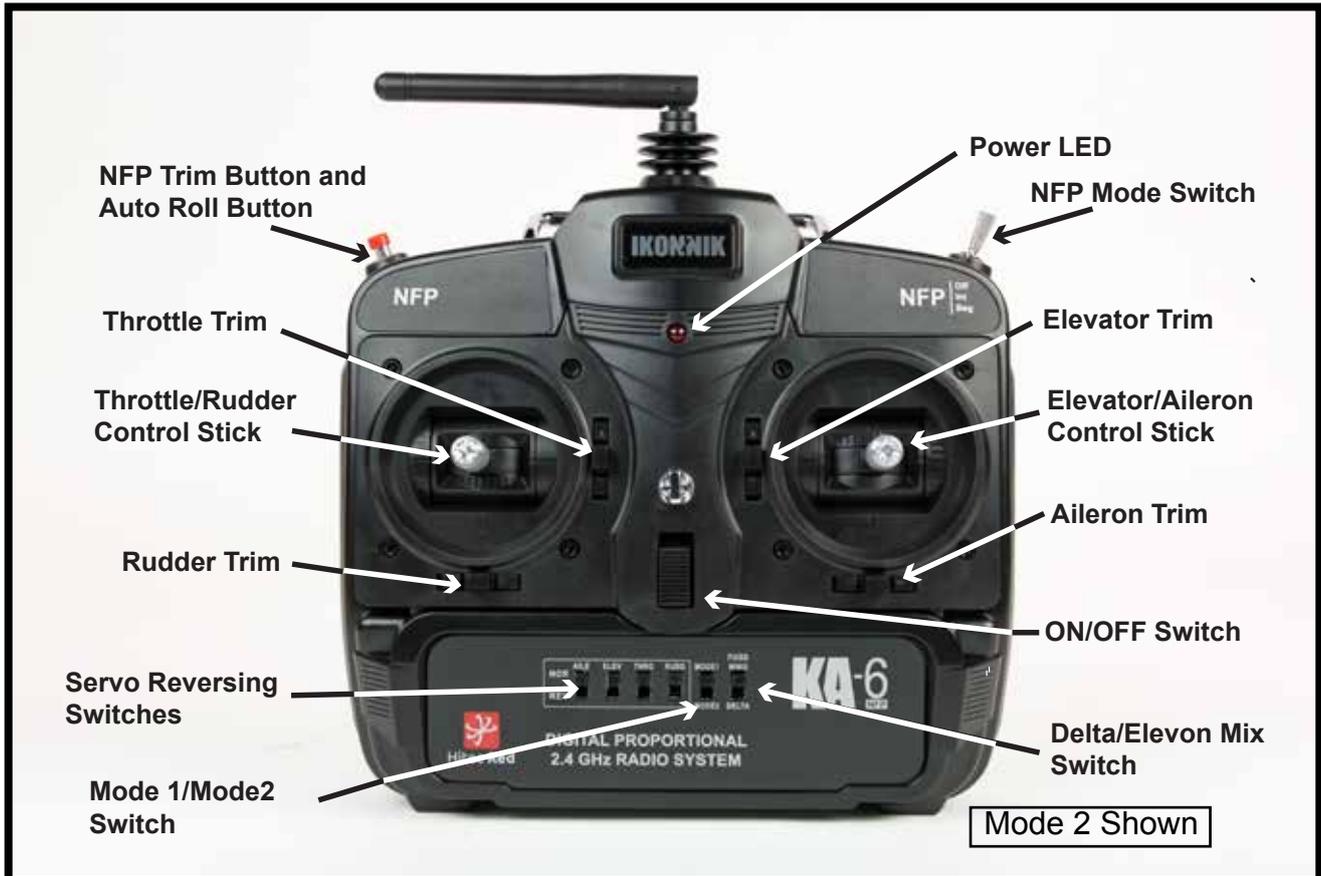


Hold the aircraft by the nose and swing the tail left or right, the rudder should deflect in the same direction as the tail is moving.



Hold the aircraft by the nose and swing the tail up, the elevator should deflect up. Swing the tail down the elevator moves down.

TRANSMITTER DETAILS



The Gamma Pro V2 RTF version includes a KA-6 NFP 6-Channel Airplane Transmitter equipped with 2.4GHz Hitec Red technology, trim levers, servo reversing switches and optional use “delta/elevon” mixing. The PTF (Pair-to-Fly) version requires a 6+ channel Hitec transmitter.

ESC (ELECTRONIC SPEED CONTROL)

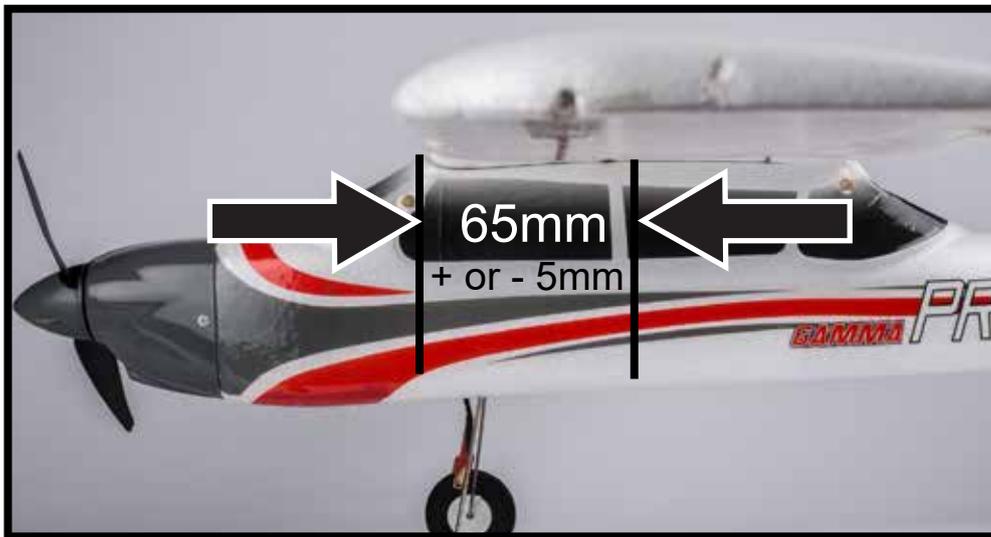
The factory installed 20A brushless motor ESC arms the servos when the flight battery is plugged in and the ESC receives a valid low throttle signal from the receiver. If the throttle is not in its lowest position the ESC will not arm. When the flight battery is plugged in you will hear 3 tones (3 cell battery) followed by a double tone indicating that the motor is armed. Once the throttle is activated please make sure that you keep clear of the prop as a spinning prop can cause serious injury.

The ESC includes a Battery Eliminator Circuit (BEC) that provides electrical power to the receiver and servos. This power is from the flight batteries and no additional receiver batteries are required.

The ESC also has a Low Voltage Cutoff (LVC). When the voltage in the flight batteries reaches a level that is approaching 3V/cell the LVC will reduce the power to the motor gradually. If you feel that the airplane is beginning to lose power, land immediately and change or recharge your flight battery.

Spare flight batteries are available at Ares-RC.com

CENTER OF GRAVITY



The RTF Gamma Pro V2 CG is set just by installing the supplied 1000mAh battery. If you are using a different battery or other components check to see that you have maintained the correct CG. Measured from the leading edge of the wing the CG is 65mm +/- 5mm.

FIRST FLIGHT CHECKLIST

- Airplane assembled and mechanically trimmed.
- Flight battery fully charged
- Control surfaces move in correct direction when control stick is moved.
- Airplane is facing into the wind
- The flying site is free of people and obstructions and is of suitable size

Congratulations you are now ready for flight!

FLYING

We recommend flying your Gamma Pro V2 in a large enough space for relaxed flying. The area required should be about the size of a ball field and be free of obstructions. We suggest that initial flights be carried out when the wind conditions are light. Once you are familiar with the Gamma Pro V2 you will easily be able to fly in less favorable conditions.

We recommend that your first flight be with the NFP (Natural Flight Progression) switch in the off position. From a smooth surface with the nose of the airplane into the wind, smoothly advance the throttle.

Ease back on the elevator stick and the Gamma Pro V2 will smoothly climb out. Use the aileron stick to initiate a turn and continue to climb to a comfortable altitude. Once airborne you can reduce the throttle to 1/2 for a good cruising speed. The first steps are to gain some confidence in controlling the flight of the airplane without having the NFP active. Smooth stick movement will yield the best results. With the plane flying at an altitude of 100-150 feet it is time to check the NFP trim, switch the NFP mode switch from off to intermediate and observe the reaction of the airplane. If trimmed properly there should be only a minor change in flight attitude. If the airplane begins to climb or dive more than a few degrees, switch off the NFP and return to land and adjust the NFP trim as described on page 11. When properly trimmed the NFP modes will help you to easily fly the airplane and return it to straight and level flight by just releasing the sticks.

Beginner Mode: when switched into this mode the NFP software will restrict the bank angle of the wings while mixing in rudder to coordinate the turns. This mode is great for take off and landing as it helps maintain a smooth and straight flight path.

Intermediate Mode: when switched into this mode the NFP software will allow greater bank angles during flight but does not mix in any rudder. This allows the pilot to learn how to add rudder on his own to coordinate turns. As in beginner mode, releasing the sticks will immediately return the airplane to level flight.

Auto Roll Function: Your Gamma Pro V2 incorporates a unique auto roll function. When flying in either one of the NFP modes you can roll 180° to stabilized inverted flight by pressing and holding the NFP button and deflecting the aileron stick in either direction and returning it to neutral and then releasing the NFP button. The Gamma Pro V2 will roll in the direction desired and stop inverted. The NFP stabilization will still be in effect. You may need to add a little down elevator to hold the nose up. This will help you get familiar with inverted flying while greatly reducing some of the work load. To return to upright simply repeat the steps of pushing and holding the NFP button and moving the aileron stick in either direction and back to neutral and then releasing the NFP button. If you press and hold the NFP button and hold the aileron stick at either the left or right extreme and your Gamma Pro V2 will perform a series of rolls across the sky. Release the NFP button to again stabilize in either upright or inverted flight.

Many aerobatic maneuvers can be performed with the NFP turned off but remember that if you get in trouble, just switch on one of the NFP modes to immediately recover to level stabilized flight. We hope that you enjoy learning to fly the Gamma Pro V2 and have many enjoyable flights.

GAMMA PRO V2 REPLACEMENT PARTS

Ares Gamma Pro V2 Complete Item List

Item Number	Description
AZSA1615	Fuselage w/o decal: Gamma V2, Gamma Pro V2
AZSA1616	Main Landing Gear: Gamma V2, Gamma Pro V2
AZSA1617	Landing Gear Mount/Battery Hatch Set: Gamma 370 V2, Pro V2
AZSA1618	Tail Wheel Set: Gamma V2, Pro V2
AZSA1621	Painted Cowl: Gamma V2, Gamma Pro V2
AZSA1623P	Spinner: Gamma Pro V2
AZSA1624P	Decal Set: Gamma Pro V2
AZSA1626	Aileron Wing Set: Gamma V2, Pro V2
AZSA1629	1250KV, 370 Brushless Motor: Gamma Pro V2
AZSA1629S	Prop Shaft Adapter w/ nut: Gamma Pro V2
AZSA1630	Aegis NFP Control Board: Gamma Pro V2
AZSA1640	Float Set: Gamma V2, Pro V2
AZSAP8040HS	8 x 4 High Speed Propeller (2): Gamma Pro, Pro V2
KNNA1001	KA-6 6-Channel Radio System: NFP version
KNNA1001M1	KA-6 6-Channel Radio System: NFP version: Mode 1
KNNA1003	KA-6 6-Channel Transmitter Only: NFP version
KNNA1003M1	KA-6 6-Channel Transmitter Only: NFP version: Mode 1
KNNA1004	AR-6 6-Channel Aircraft Receiver
AZS1207	9-Gram Sub-Micro Servo: Gamma 370, Pro, Gamma V2, Pro V2
AZS1207GS	9-Gram Sub-Micro Servo Gear Set: Gamma 370, Pro, Gamma V2, Pro V2
AZS1214	Tail Set w/o decal: Gamma 370, Pro, V2, Pro V2

AZS1218	Tail Wheel Set: Gamma 370, Gamma Pro
AZS1219	Pushrod Set: Gamma 370, Pro, V2, Pro V2
AZS1220	Control Horn Set: Gamma 370, Pro, V2, V2 Pro
AZS1225	Rubber Bands: Gamma, V2, Gamma Pro, Pro V2
AZS1230	20-Amp Brushless Motor ESC w/T-connector: Gamma 370 Pro, Pro V2
AZSB10003S20D	1000mAh 3-Cell/3S 11.1V 20C LiPo Battery, T-connector: Gamma Pro, Pro V2
AZSC308C	308C 3-Cell/3S 11.1V LiPo, 0.8A DC Balancing Charger: Gamma Pro V2
AZSC1308PS	100-120V AC to 13V DC Adapter, 0.8-Amp Power Supply: Gamma Pro V2

WARRANTY + CONFORMITY

WARRANTY + CONFORMITY



Limited Warranty

Ares products are covered by the currently valid statutory warranty regulations. If you wish to make a claim under the limited warranty, please contact the model shop where you originally purchased the unit.

The limited warranty does not cover:

- Damage due to commercial use, negligence, misuse, abuse, accident, or acts of God;
- Damage due to improper installation, operation or maintenance;
- Normal wear and tear;
- Cosmetic damage;
- Modifications or repairs not carried out by Ares or by an authorised Ares Service Centre;
- Product not purchased from an authorized Ares dealer;
- The use of accessories other than original Ares items;
- Use of the unit outside the stated specification;

Ares and its authorised representatives accept no liability for loss, damage or costs which are caused by the incorrect or incompetent use of the product.

UK Distribution

Ares is distributed in the UK by:

J Perkins Distribution Ltd. Lenham, Kent, ME17 2DL www.jperkins.com



J Perkins (Distribution) confirms this product is in compliance with the relevant harmonised European directives relating to its safe operation.

To see a copy of the relevant Declaration of Conformity visit:

<http://www.ares-rc.com/support>



WEEE

This appliance is labelled in accordance with European Directive 2012/19/EU concerning Waste Electrical and Electronic Equipment (WEEE).

The WEEE Directive came into force to reduce the disposal of domestic waste and promote recycling. Any electrical item that carries the crossed out wheellie bin logo must not be disposed of in domestic waste but should be taken to a designated collection facility. J Perkins (Distribution) are a member of an approved compliance scheme to encourage consumers to recycle unwanted items. Your local authority will be able to provide details of your nearest approved waste disposal site.

ARES

www.Ares-RC.com
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