GRYPHON EVO

SPORT JET TRAINER ARF
FULL COMPOSITE

INSTRUCTION MANUAL

info@redwings.it
www.redwings.it

INTRODUCTION

Thank you for purchasing your new all Composite Gryphon, Jet trainer.
Read carefully and understand this Manual prior to beginning construction on the Gryphon. It provide important information for the safety during the construction of the model and how operate it.

WARNING

Modern jet propulsion has made clean design like the Gryphon, capable of very high speeds. Please limit the air speed to 175 MPH for the first few flights, until you are familiar with the flight characteristic.

Always observe the AMA's maximum airspeed limit of 200 MPH.
For this reason it is recommended that an experienced RC pilot make the first flight and supervise subsequent flights, until you are comfortable and familiar with the aircraft. The use of a buddy cord is ideal for familiarization of the flight envelope and can make the first few flights more comfortable for you.
This remote control air model is not a toy! If not correctly assembled and operated , it can cause serious bodily harm, damage to propriety or even death.
It is your responsibility and yours alone to assemble this remote control model airplane, operate, maintain it's airworthy and fly in safe manner.
Always ask for the help of an experienced remote control flyer before assembly and flying this model.
Do not attempt to make any unnecessary modification, the Grypnon flies perfectly as designed.
During assembly, take your time and don't hurry the process. While construction the model, please refrain from making unnecessary modifications as the Gryphon fly extremely well as designed.
Use the best radio equipment available and install it in according to the manufacturer's recommendations.
Prior to every flight, check the aircraft over carefully, including, but not limited to, the airframe and control surfaces, brakes, radio range and engine operation. If all is not perfect, DO NOT FLY UNTIL IS IT!!!
Make sure that all spectators and helpers are behind the air model, and at the safe distance when the engine is running, as recommended in the Instruction Manual of your Engine Manufacturer, and that the model is properly secured when you start up the engine.

Fly only in A.M.A. (Academy of Models Aeronautics) approved sites.

Follow the A.M.A. National Model Aircraft Safety Code.
The Academy of Models Aeronautics provide guidelines for safety operations of the remote controls air models in the United States of America and also provides liability insurance.

For more information contact:
Academy of Models Aeronautics
5151 East Memorial Drive
Muncie, IN 47302
Telephone (317) 287-1256
Or visit the web **www.modelaircraft.org**

LIABILITY EXCLUSION

The Redwings, as manufacturer of this kit, provides you a fine product with high level of construction, but the model requires assembly as described in building instructions.
You must understand that we can't have any control of the quality of your job and how you assemble the model, the installation of the remote control equipment, the installation of the engine, the others accessories, glues used and any modification, methods that you use for building the model, and how you understand the instructions contained in this manual. Therefore the flying characteristics of the model, how you operate it, both on ground and in flight, and where you operate it, depend ONLY on you, and ONLY you are responsible for your actions.

Redwings assumes no liability for the operation and use of these products. The owner and operator of these products should have the necessary experience and exercise common sense. Said owner and operator must have a valid Academy of Model Aeronautics license for the purpose of insurance.

For this reason the Redwings deny all liability, and is not responsible for any personal injury, death, damage or property loss and any other direct or indirect consequent damages.

It's important to understand that Redwings is unable to monitor whether you keep to the instructions contained in this operating manual regarding the construction, operation and maintenance of the aircraft, nor whether you install and use the radio control system correctly. For this reason we at Redwings are unable to guarantee or

provide a contractual agreement with any individual or company that the model you have made will function correctly and safety.
You, as operator of the model, must rely upon your own expertise and judgement in acquiring and operating this model.

ADDITIONAL REQUIRED EQUIPMENT NOT INCLUDED IN THE KIT

1. Remote control equipment.
nr. 1 8 channel radio
nr. 2 high torque servo 150 oz/in torque (ailerons)
nr. 2 high torque servo 150 oz/in torque, (flaps)
nr. 1 high torque servo 100/150 oz/in torque (rudder)
nr. 2 high torque servo 150 oz/in torque (elevators)
nr. 3 mini servo 50 oz/in torque (steering, retracts and brake)
nr. 1 2000mH battery 4,8V or 6.0V

2. Turbine.
Thrust class 16-22 lb (7-10 kg)
3. Other items needed
nr. 12 4mm or 5/32" bolts for fix the landing gear
nr. 12 4mm or 5/32" blind nuts
nr. 1 set assorted pushrods as necessary

CONTENT OF THE KIT

1. nr. 1 Composite fuselage.
2. nr. 2 Composite complete wings (left & right).
3. nr. 2 Composite complete stabs (one left + one right).
4. nr. 2 Composite elevators (one left + one right).
5. nr. 2 Composite canopy.
6. nr. 1 Carbon fiber by-pass. (optional)
7. nr. 1 Stainless exhaust pipe.
8. nr. 7 Control horns.
9. nr. 2 Carbon fiber stabs tube.
10. nr. 1 Composite fuel tank.
11. nr. 1 Carbon fiber wings tube.
12. nr. 1 Set of plywood plans.
13. nr. 1 Instruction Manual.

SPECIFICATIONS

Wingspan (2200 mm)

Overall Length (2050mm)

Take off weight 19.8 lb (9000gr)

8/9”Trust class 16-22 lb (7-10 kg)

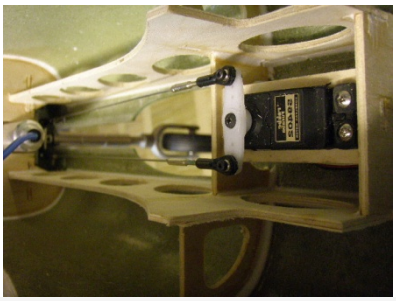
BUILDING INSTRUCTION

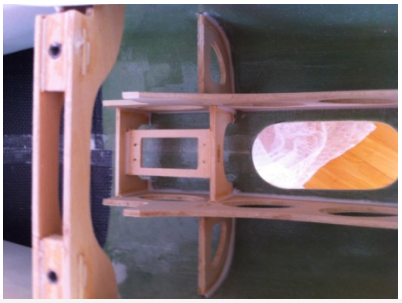
1. Fuselage

The fuselage is highly prefabricated and, therefore, can be constructed quickly with minimum effort.
Set the exhaust in the fuselage, making sure that the rear of the tube is even with the top rear of the fuselage. The engine manufacturer will give you the recommended size for the engine exhaust pipe at a distance tail.
Place the specified distance from the engine exhaust pipe and mount the by-pass using parts 1A and 1B and 2A and 2B trainers half. Secure with screws to passers-by and blind nuts.

Fixed with epoxy glue the tank air support for landing gear under the Kevlar tank.

The landing gear support is assembled in the nose.
Install only the servo and fix in the landing gear support.





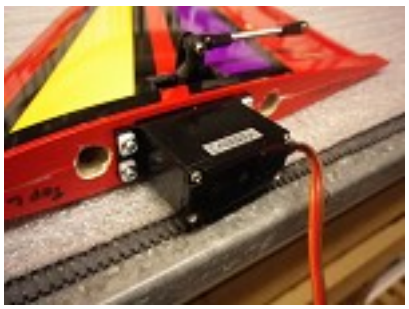
2. Wings.
Connect the servos to the flaps and ailerons to the mounting plate behind the scenes.

The wing is attached to the fuselage by a screw mm. 4

3. Stabs.

At the rear of the fuselage, stab in the assembly, they are two rectangular holes, to guide the user in installation of the servo horizontal stabs.

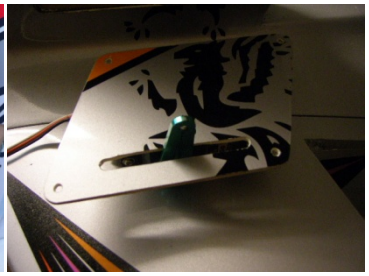
Remove the stab from the fuselage. Install the elevator servo into the stab root with the servo arm inside the stab. Locate the position of the arm on the bottom side of the stab and make an opening for the arm to protrude. Check that the servo arm is aligned with the control arm, which you will install, as you did for the ailerons and flaps. Slide the stab into the fuselage and mark the locations of the servo bottom as it contacts the fuselage. Cut out the area on the fuselage where the servo hits the fuselage.



4. Rudder.

Assemble the plywood servo support in the cover with epoxy.
Install the servo and fix the control horn in the rudder.





5.Fuel Tank.
The composite fuel tank will be installed between the inlet ducts and rest on the wing mounting sleeves.
Use Dubro tank stopper kit that is recommended for gasoline to plumb the tank.



7. Exhaust.

Install the exhaust pipe in the correct position and fixed in frame of rear fuselage.



SET UP FOR FLIGHT

Balance (CG)
Properly Center of Gravity (CG) is very critical . For this reason we recommended that you take your time and make sure that the proper CG is achieved. If necessary get a friend or assistant to help you manage the aircraft during this operation. Improper CG can cause the aircraft to be unmanageable upon lift off and could cause bodily injury and destruction of property.
This operation must be performed with the aircraft fully assembled and the fuel tank empty. If you use a header tank or UAT, these tank should be full.
The recommend CG is on the bayonet of the wing. If more weight is necessary use stick on weights in the proper location to get it right. Be certain that the ECU and receiver battery are mounted securely as they shifting will upset your CG.
Do not fly until you are sure that the CG correct.
Check the movement of the control surfaces.
Follow the radio manufacturer's instruction manual to assure that you correctly set up the flight controls before flight.

Turn on the radio and center all servo arms. Except for the flap servos, and make sure no trim is dialed into the radio. Zero the control surface before you make up the control link. Use the radio end point, dual rates and mixing to achieve the proper control throws.
Make sure that each control movement is correct for the input you are giving the radio.
We recommended for the first flight that you use these setting. After the first flight you will adjust these throws to suit your flying stile.

PRE FLIGHT AT THE FIELD

Is VERY IMPORTANT that before each flight session you make sure to:

1. Charge both battery packs on the aircraft and make sure the transmitter battery is charged.
2. Do a range check on the radio. First flight should include a range check with the turbine off and one with the turbine running. These two range check should be compared and if a significant deterioration is observed, the cause MUST be determined before flight.
3. Double check that all control movements are in the correct direction and the throws are as recommended with free movement and without binding.
4. Make sure that the engine runs smoothly and that the fail safe is set to the AMA required setting.

SUPPLEMENTARY SAFETY NOTES

Pre-flight checking.
Before every session check that all the model's working system function correctly, and be sure to carry out a range check. The first time you fly any new model airplane we strongly recommend that you enlist the help of an experienced modeller to help you check the model and offer advice while you are flying. He should be capable of detecting potential weak points and errors.
Be certain to keep to the recommended CG position and control surface travels, if adjustments are required, carry them out.
Be aware of any instructions and warnings of other manufactures, who's product you use to fly this particular model airplane.

Don't ingnore our warnings or those provided by other manufacturers. They refer to thins and processes which, if ignored, will result in fatl injury or permanent damage.
Engine, servos and control surface have to be attacched properly. Please use only the recommended engines, servos.
Make sure that the CG is located at the recommended place. If you find out that you need to relocate your batteries or even put weight in to move the CG to the recommended position, please do so and please don't try to save weight or hassle. A tail heavy model, in a first flight, can be an enourmous danger for you and all spectators. Fix any weight securely to the model airplane.
Make sure that the model airplane is secured properly when you start up the engine. Have at least two helpers hold your model airplane when when you start up the engine.
Make sure that all spectators are behind or far in front of the model airplane when running up the engine.
Make sure that you range check your radio system thoroughly before the first flight. It's absolutely necessary to range check your radio first with engine NOT running. Don't pull out the trasmitter antenna and check the distance you can walk before fail safe occurs. Then start up the engine, run it at about half throttle and repeat this range check with the engine running.
Make sure that there is no range reduction. Only then make the first flight. If youfeel that the range with running engine is less then with the engine quit, please contact the radio manufacturer and the engine manufacturer and DON'T FLY at that time.
Check for vibrations through the whole throttle range, DON'T FLY if you think that there are any abnormal vibrations. If you carefully checked all this and followed these hints strictly, you will have a safe and successfull first flight and many hour of pleasure.

If you encounter any difficulty during construction, or preparation for flight of this model, please feel free to contact us. We will be glad to assist you in any way.

Please contact www.redwings.it or info@redwings.it

HAVE A GOOD FLIGHTS AND HAPPY LANDINGS!!

Redwings
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