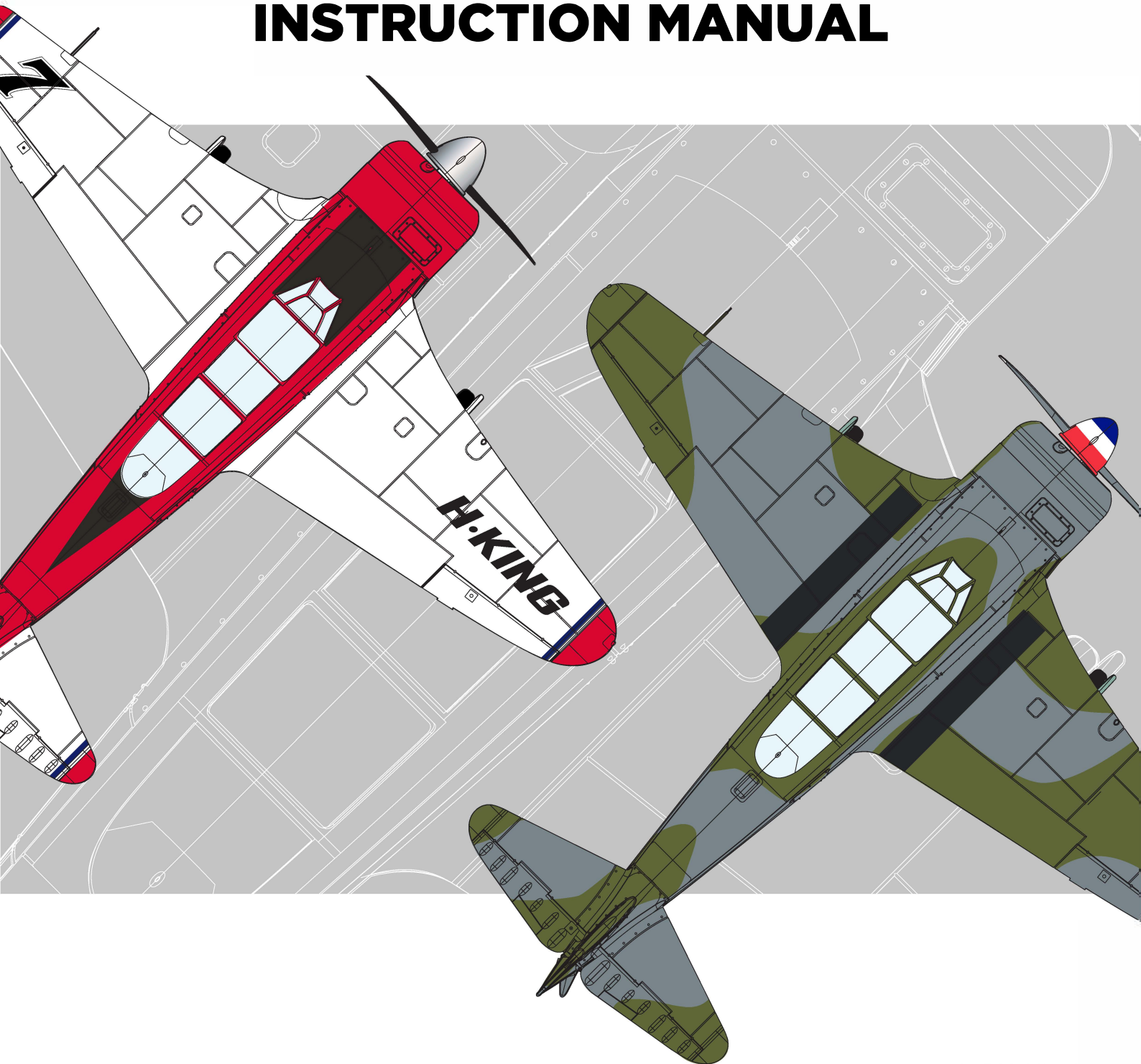


YAK-11

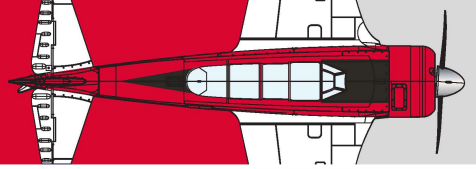
— H-King 1450mm YAK-11 —

INSTRUCTION MANUAL



H-KING

PNE
VERSION



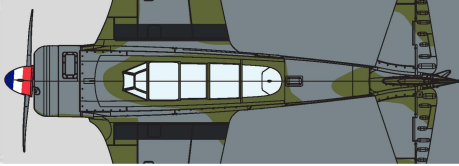
WARNING

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

SAFETY PRECAUTIONS

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

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



INTRODUCTION



The Russian Yak-11 was designed as an advanced trainer for use by the Soviet Air Force, and came into service in 1947. It was powered by a seven-cylinder radial engine, had all metal wings, and a mixture of wood and metal in the fuselage. The pilot and instructor sat in tandem under a long canopy which had separate sliding hoods. Although designed as a trainer, Yak-11's were also used in combat during the Korean war, and more recently, highly modified ones have been used very successfully for air racing.

The H-King Yak-11 is available in two color schemes, an authentic Russian warbird scheme, and a colorful, racy looking fantasy air races scheme, they also have different power trains. The warbird version has a 5020-410KV motor driving a 17x10 prop for more torque, and the racer version has a 5020-550KV driving a 16x6 prop for more speed. The H-King Yak-11 has a lot of outstanding features including CNC machined fully functioning oleo struts, LED landing lights, and navigational lights (a full list of features are below). Both come "Plug N Fly" with motor, ESC, and high power metal geared servos factory installed. Building the Yak-11 is very quick and straightforward due to the minimal parts count and preassembled components. The H-King Yak-11 is constructed of tough EPO foam, has working flaps, and a servoless retract system. It requires the use of a 6ch radio system, and a 6S 5000mAh 50C+ LiPo battery.

SPECIFICATIONS

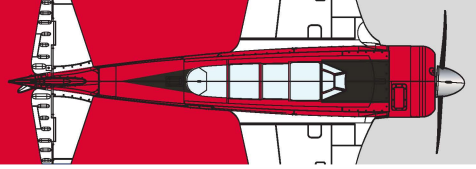
- Wingspan: 1450mm (57in)
- Length: 1300mm (51in)
- Flying Weight: 2900~3100g (103~110oz)
- Motor (Warbird): 5020-410KV brushless outrunner
- Motor (Racer): 5020-550KV brushless outrunner
- Propeller (Warbird): 17x10
- Propeller (Racer): 16x6
- ESC: H-King 95A brushless w/XT90 connector (both versions)
- Servos: 6 x 12~19g high power digital metal gear

FEATURES

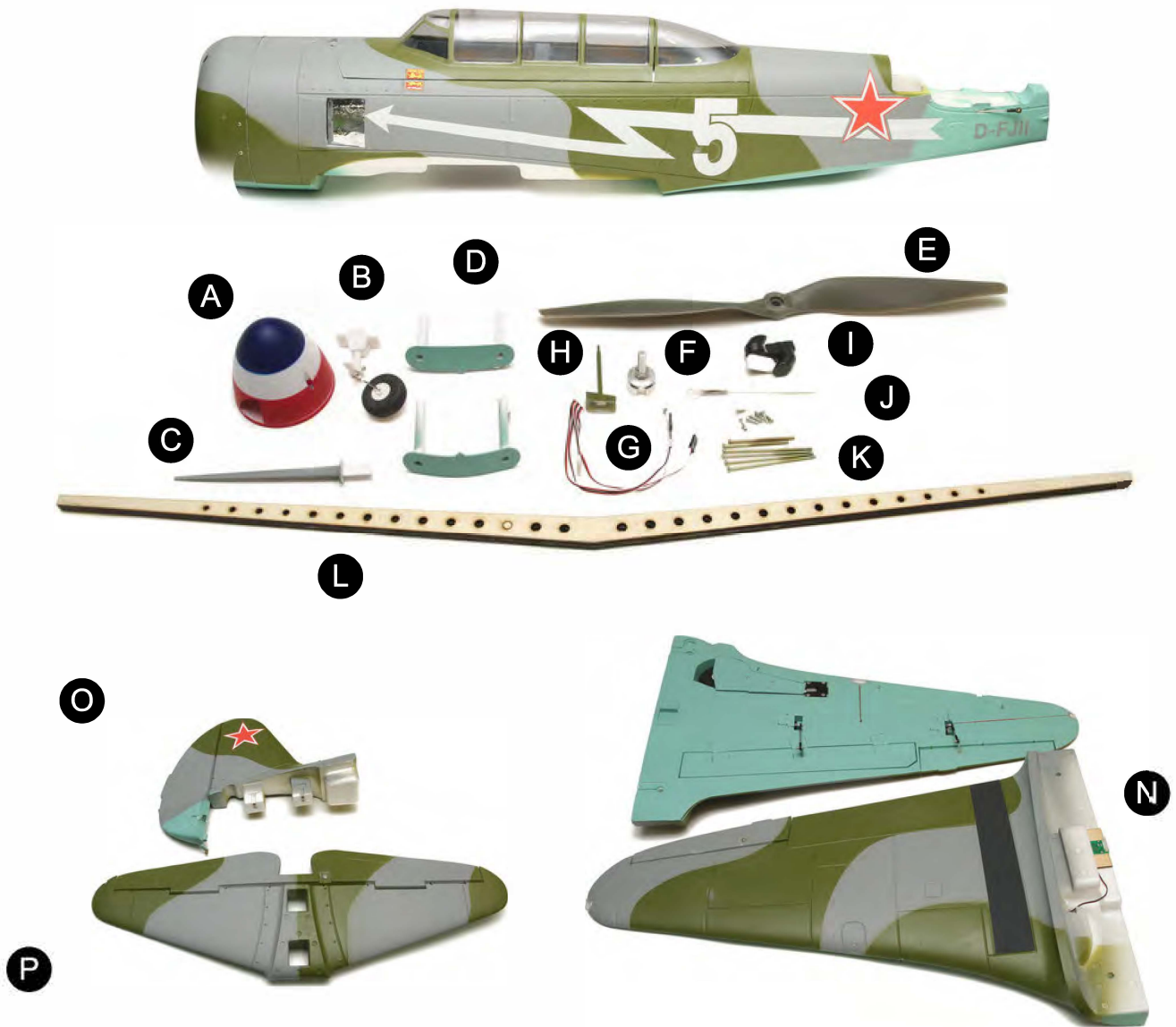
- CNC machined fully functional all metal oleo struts
- LED Landing and navigational lighting system
- Quick connect wing servo connectors
- Unique color schemes with a high standard finish.
- Powerful and reliable H-King power system
- Landing gear configured for grass operations
- Available in authentic "Warbird" or fast fantasy "Racer" versions

REQUIRED

- 6ch transmitter and receiver
- 6S 5000mAh 50C+ LiPo battery w/XT90 connector (or adapter)

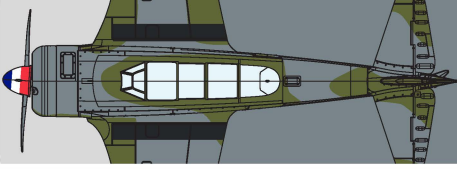


CONTENTS



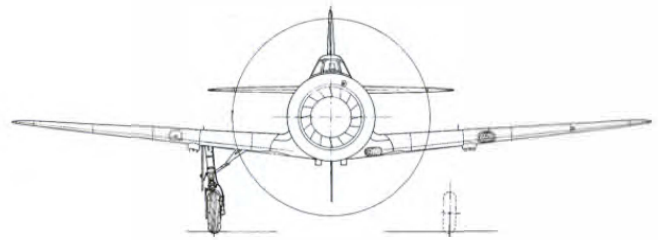
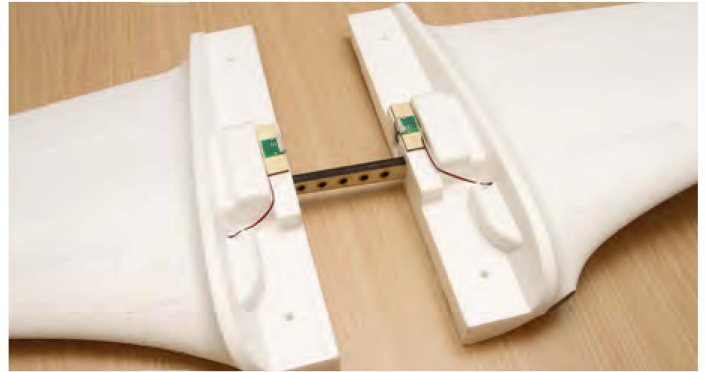
A: Spinner
B: Tailwheel assembly
C: Antenna
D: Plastic wing retainer
E: Propeller
F: Propeller hub adapter
G: Quick connect Y cable
H: Pitot tube

I: Exhaust stacks
J: Tailwheel linkage pushrod
K: Screw set
L : Wing joiner
M : Fuselage
N: Main wing set (L+R)
O: Vertical stabilizer
P: Horizontal stabilizer

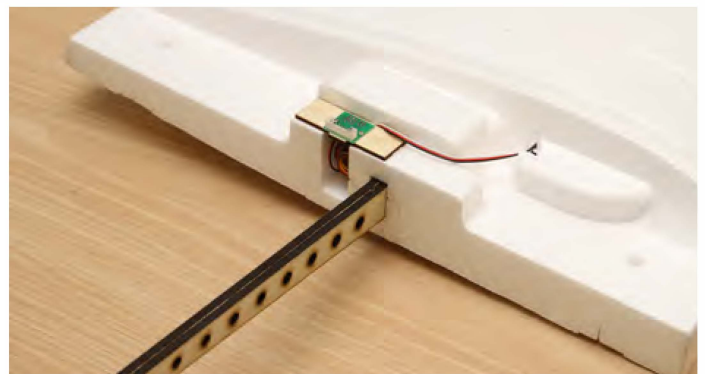
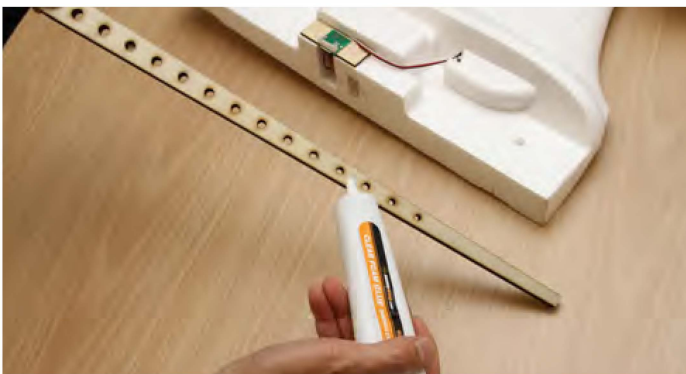


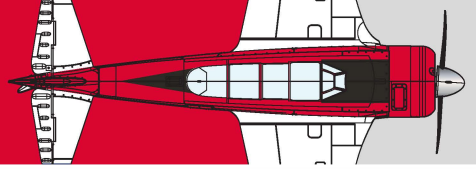
MAIN WING ASSEMBLY

1. Before you glue the set of wing halves together permanently, dry fit them together first. Slot the supplied wooden wing joiner into both wing slots and ensure there is no gap when firmly pushed together. If necessary, trim the ends of the wooden wing joiner tips to get a perfect fit. Note: The wooden wing joiner has a dihedral angle built-in. Check that you have installed the wing joiner in the right orientation to ensure the wingtips are higher than the center of the wing.



2. Once you are satisfied with the fit, disassemble and apply foam-safe glue generously onto one end of the wooden wing joiner. Slide the wing joiner into one of the wing slots. If any excess glue squeezes out, use a paper towel to wipe away the excess. Set this wing assembly aside and allow the glue to dry before moving to the next step.



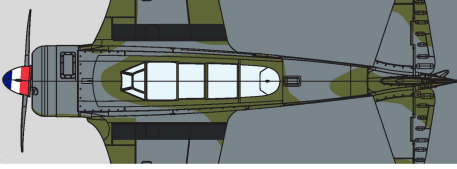


3. Once the glue has set, apply glue generously to the other end of the wing joiner and wing root as shown.



4. Slide both wing halves together, and hold them in place while the glue sets for the best bond. Once the glue has set, the next step is to install the plastic wing retainers. The plastic wing retainers come in two different sizes, there is a small protrusion on each wing retainer for easy identification. The one with a sharply pointed protrusion goes to the front and the one with a rounded shape goes to the rear. There is also a corresponding shape pre-molded into the wing, this will match the shape of the correct plastic wing retainer so that you can't go wrong. Once you have identified the parts correctly, apply glue and assemble them into the wing.





TAILWHEEL ASSEMBLY

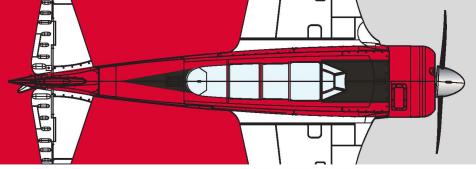
1. Prepare the tailwheel assembly for installation. The bracket should be aligned along the length of the fuselage as shown below. Install the tailwheel assembly to the fuselage with the supplied screws. Once fitted, check and tighten if necessary the screws on the wheel collar stopper, and the steering control arm to ensure they will not come loose in flight.



VERTICAL FIN AND HORIZONTAL STABILIZER INSTALLATION:

1. Before you install the empennage to the tail of the fuselage, check that the elevator and rudder servo arms are set as shown. It is best to install your radio gear at this point and reset all the electronic trims to neutral. You can make necessary mechanical adjustments for the perfect servo linkage setup once the empennage is screwed in place.

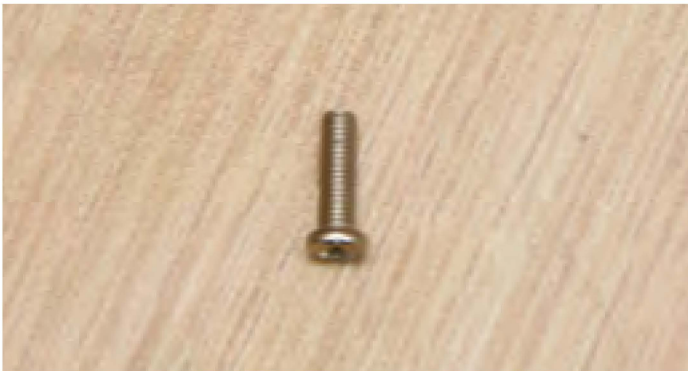




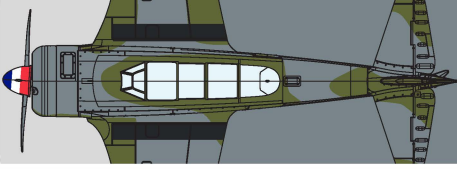
2. Insert the vertical fin foam key alignment pegs through the horizontal stabilizer as shown.
3. Insert the vertical fin pegs onto the fuselage tail section and ensure the whole assembly is fully seated, there should be no gaps. Use the supplied 2 off 55mm x 3mm machine screws to lock them in place.



4. Use the supplied 10mm x 3mm machine screw to secure the rudder, this also acts as a hinge. After hand tightening the screw, check that the rudder moves freely without any restriction. Adjust the screw a quarter turn either way so that it moves freely, but with no play..



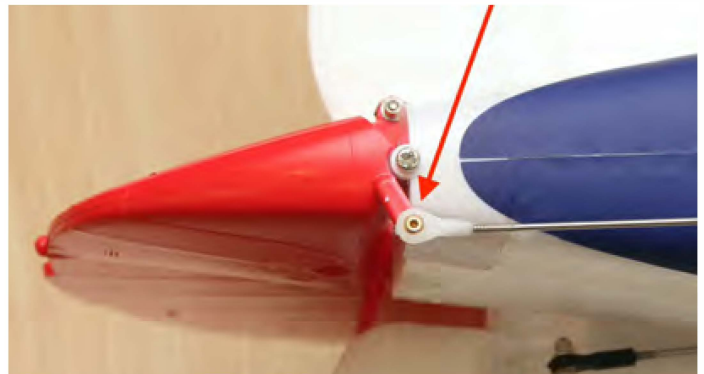
5. Connect the ball link sockets to the elevator and rudder control horns using the supplied nuts, bolts, and washers by following the steps below.
6. Before you link up the elevator with the pushrod, use a piece of tape to hold the control surface in the neutral position. Adjust the ball link socket by turning it clockwise or anti-clockwise as necessary until it is perfectly aligned with the outer hole on the elevator control horn.
7. Screw the bolt through the plastic control horn and install the ball link onto the bolt, then place a washer onto the bolt, followed by the lock-nut. Hand tighten it with a screwdriver, and a pair of pliers until it has minimal play but without rubbing. Check if the control surface can be moved freely without any restriction, adjust if necessary.



8. Repeat the above steps for the rudder linkage installation.



9. Install the control linkage to the tailwheel steering control arm, and to the rudder control arm by fitting the plastic ball socket to the metal ball link as shown.

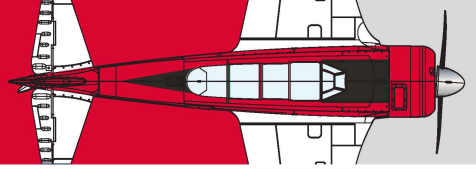


RADIO GEAR INSTALLATION

1. Open the canopy hatch by pulling the mechanical lever towards the front as shown. Once the catch has released, slightly lift the hatch and gently pull it forwards, this easily removes the hatch from the fuselage.

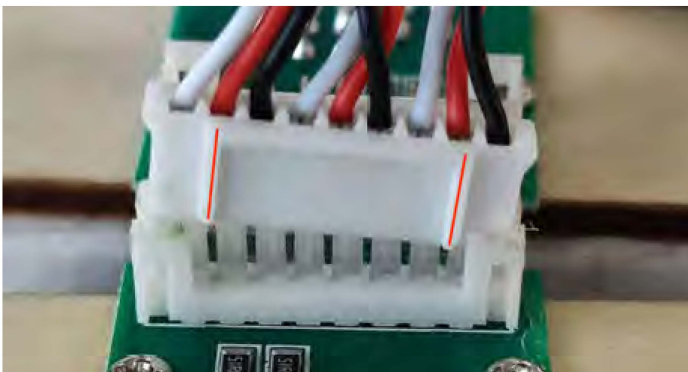
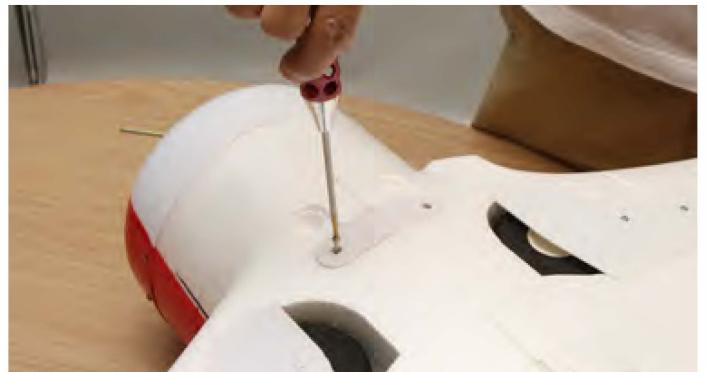
2. Install your chosen radio system into the Yak-11's radio compartment. Use a piece of double-sided foam sticky tape to secure the receiver to the radio tray as shown below. Secure the servo leads by using zip ties, this will keep things neat and tidy, plus it increases the level of reliability of the connections. For the complete radio setup, consult with your radio system instruction manual for details.

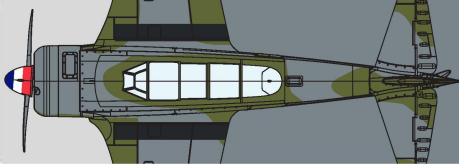




MAIN WING INSTALLATION

1. Feed the Y cable with quick connect multiplug through the opening on the fuselage and install the main wing onto the wing saddle. Use the supplied 4 off 75mm x 3mm machine screws to secure it to the fuselage. Next, plug the quick connect Y cable to the socket on the PCB in the fuselage as shown. Note that the alignment keys face outward. Also as part of your pre-flight checks every time you fly, check that the connectors are secure and fully located together.





PROPELLER ADAPTER, PROPELLER AND SPINNER INSTALLATION

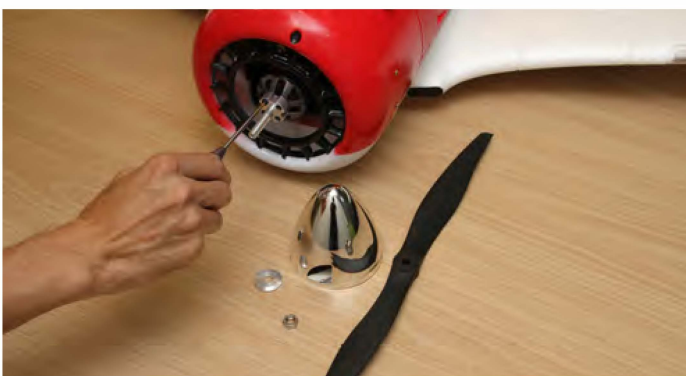
Important Note:

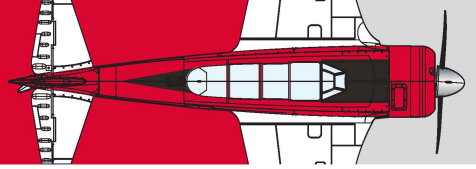
Yak-11 Racer Version: The fit of the prop in the openings of the spinner is extremely close. This is normal, however you may trim the opening a little for a easier fit if required. Please remember that it is very important to balance the spinner again if you do trim these openings.

Both Yak-11 Warbird & Racer Versions: Whilst the spinner and prop should be balanced to a degree out of the box, we still strongly suggest you balance the prop and spinner yourself. An unbalanced prop and spinner can cause excess vibration and has the potential to damage the model.

1. Install the prop adapter onto the motor by using the 3mm hex screws supplied. Use an Allen key to tighten the 4 hex screws securely in place..
2. Install the spinner back plate on the prop adapter, follow this with the propeller.
3. Next step is to fit the 8mm washer and the M8 nut, tighten the nut with a suitable spanner. Fit the spinner cone onto the backplate and secure using the 4 supplied self-tapping screws. You might need to adjust the backplate and the spinner cone slightly by loosening the prop nut and moving them a fraction until the screw fixings are perfectly aligned.
4. Once satisfied that things are aligned, tighten the prop nut and secure the spinner with the 4 self-tapping screws.

Note: Be careful with a spinning prop, always keep it away from yourself and other people at all times.



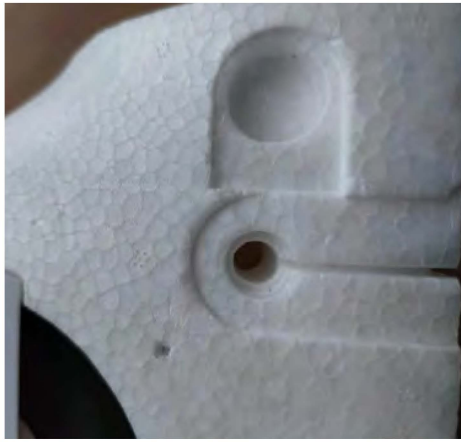


SCALE DETAILING PARTS INSTALLATION

1. Mount the pitot tube (with factory pre-installed magnet) onto the lefthand wing's leading edge as shown. This design allows you to easily install and remove the pitot tube for transporting your plane to and from the flying field.

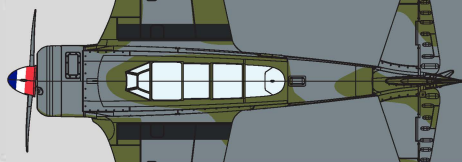


2. Trim off the foam tabs on the set of exhaust pipes and apply a small amount of foam glue to each. Attach them to the 2 round shaped 3mm deep indents near the wheel well as shown.

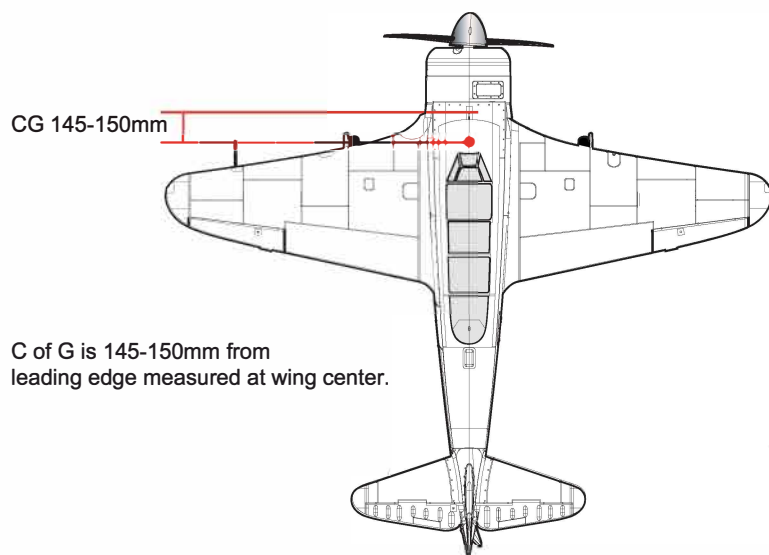


3. Glue the antenna to the rear section of the cockpit as shown. Note: The long antenna will interfere with the canopy when you remove it from the fuselage, please proceed with caution when doing this.



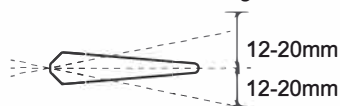


CENTER OF GRAVITY



Elevator low 12mm, high 20mm

Rudder low 18mm, high 28mm

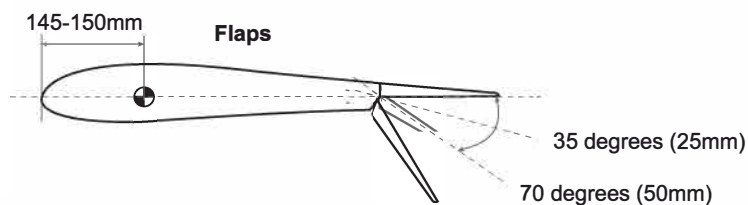


Aileron low 10mm, high 15mm



145-150mm

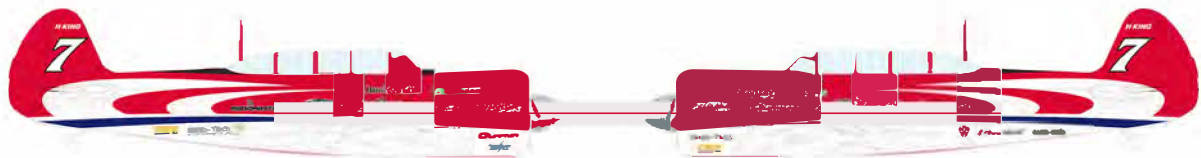
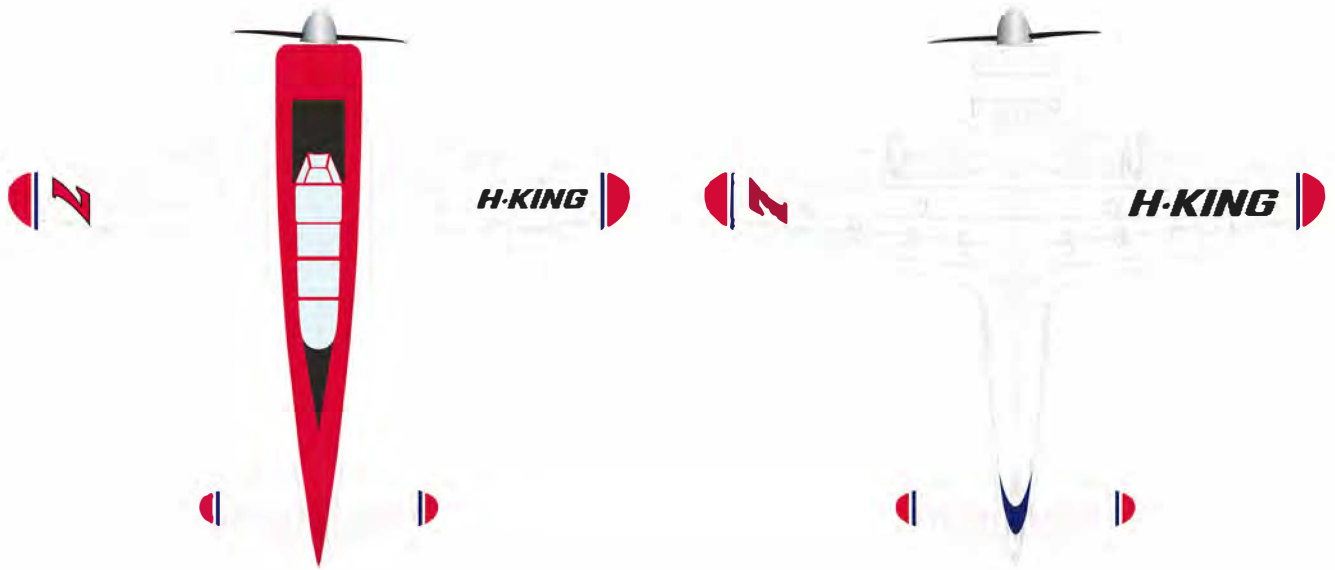
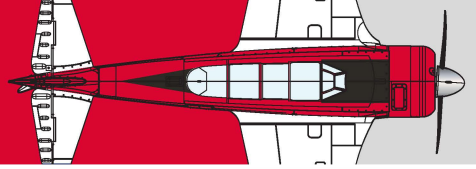
Flaps



**YOUR YAK-11 CONSTRUCTION IS NOW COMPLETE
APART FROM APPLYING THE DECALS (SEE BELOW).**



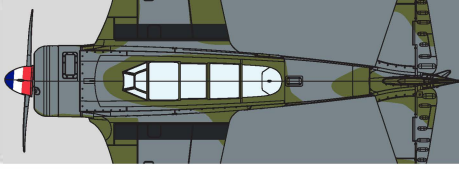
YAK-11



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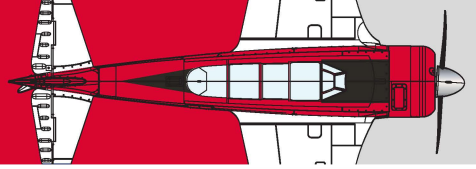




PRE-FLIGHT CHECKS

1. Check the airframe and control surfaces for any damage. Check the connections to the control surfaces, check all screws and glue joints.
2. Check the propeller for damage and security, and also check the undercarriage is performing correctly.
3. Check the Centre of Gravity. (C of G)
4. Always turn your transmitter on first before powering up your RC plane.
5. With the transmitter switched on, only then connect the flight battery.
6. Always perform a range check with your transmitter before the first flight of the day.
7. Check carefully that the control surfaces respond correctly to the control inputs.
8. Check that there is no interference on the RC controls or any jittery servos. Any clicking noises from a servo could mean the gears are damaged.
9. Check that there is no interference on the RC controls or any jittery servos. Any clicking noises from If all above is ok then the plane is ready to fly.





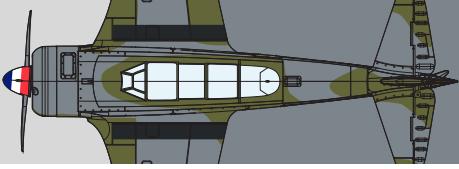
FLYING TIPS

TAKE-OFF

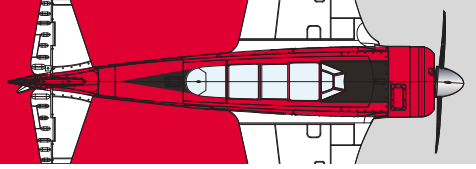
1. The Yak-11 is quite responsive to control inputs so be careful not to over control, just keep the turns gentle and steady to start with and fly at a safe height as you get used to the flying characteristics.
2. As you get used to it, you can then start to explore the more adventurous side of the Yak's flying qualities. Beautiful scale aerobatics are a dream to perform with the Yak, the rolls are very axial, loops are big due to the abundance of power, the only limitations to the aerobatic manoeuvres it will perform are your flying skills.
3. These flying skills will develop though, as the H-King Yak-11 is the perfect advanced aerobatic trainer that will give you the confidence to practice these more advanced manoeuvres.
4. Full throttle is only required for vertical manoeuvres, most of the time 50% throttle is all that should be required. This will also conserve battery power and give you a longer flight.

LANDING

1. Now your first flight is coming to an end, it's time to land, it is always good to do a practice approach and go around first.
2. Start your landing pattern beginning with a downwind leg, reducing throttle to slow the Yak-11 to a suitable speed, select wheels down as you fly downwind, you can also select the first stage of flap at this point if you wish.
3. Turn onto the base leg part of the circuit, use your rudder elevator and ailerons to fly a co-ordinated turn. Turn onto the final approach and keep flying the Yak-11 straight using the rudder, and the wings level using the ailerons. The elevator controls your attitude and speed, and the throttle controls your descent, using this method, the Yak-11 is easy to control and land.
4. As you start the approach select full flaps (don't use full flap in crosswind landings unless you are an experienced pilot). Slowly decrease throttle to about 10-15% or less at around 5ft, allow the Yak sink a little and start to round out just above the landing area and fly level. Close the throttle completely at this point (or leave a trickle of power on if it is windy) and gently flare to a three point or wheeled landing.
5. When the Yak-11 settles, slowly apply full up elevator to keep the tail wheel on the ground. Taxi your plane back holding in full up elevator and steering with the rudder.
6. Once back in the pit area safely remove the flight battery and switch off your transmitter.



Thank you for purchasing the H-King Yak-11, we hope you get hours and hours of enjoyment whilst flying it. Keep a regular eye on our website at hobbyking.com for more exciting new models and accessories that will be coming onto the market.



RECOMMENDED ACCESSORIES



**Rhino 5000mAh 6S 50C Lipo
Battery Pack W/XT90n**
SKU: 9952000033-0



**Turnigy Nano-Tech Plus
5000mAh 6S 70C Lipo Pack
W/XT90**
SKU: 9210000269-0



**Turnigy Graphene Panther
5000mAh 6S 75C Battery Pack**
SKU: 9067000375-0



**OrangeRx Tx6i Mode 2 Int'l
Version 6ch 2.4GHz DSM2/DSMX
Compatible Radio System**
SKU: 9171001328-0



**OrangeRx Tx6i Mode 2 EU
Version 6ch 2.4GHz DSMX
Compatible Radio System**
SKU: 9171001330-0



**RADIOMASTER TX12 2.4GHz
Compact 12ch Multi Protocol
OpenTx RC Transmitter**
SKU: 9914000019-0



**RADIOMASTER TX16S W/Hall
Sensor Gimbals 2.4GHz 16ch
Multi-Protocol OpenTx
Transmitter**
SKU: 9914000014-0



**OrangeRx Tx10i Mode 2 EU
Version 10ch 2.4GHz DSMX
Compatible Radio System**
SKU: 9171001399-0



**OrangeRx Tx10i Mode 2 Int'l
Version 10ch 2.4GHz DSM2/DSMX
Compatible Radio System**
SKU: 9171001401-0

H·KING



APEX CE SPECIALISTS LIMITED

89 Princess Street, Manchester,
M1 4HT, UK



APEX CE SPECIALISTS LIMITED

Unit 3D North Point House,
North Point Business Park,
New Mallow Road, Cork, T23 AT2P, Ireland



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