

F3D-30

ARF

ASSEMBLY MANUAL



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Warranty: Kangke Industrial USA Inc. guarantees the kit to be free of defects in both material and workmanship at the date of purchase. This warranty does not cover any parts damaged by use or modifications. In no case shall Kangke Industrial's liability exceed the purchase cost of this kit. Since Kangke Industrial has no control of final assembly and material used by user for final assembly, no liability shall be assumed or accepted for any damage resulting from the use by user of final user-assembled products. This kit has been flight test for normal use. If the plane will be used for extremely high stress flying, the modeler is responsible for reinforcing the high stress points. Inspect this kit immediately after receiving it, report any missing and damaged parts within 10 business days otherwise the claim may be denied.

Congratulations!

Kangke Industrial USA, Inc. brings you one of the finest ARF F3D models available. Skilled craftsmen combined with top grade materials and precision jigs have all come together to produce an aircraft with outstanding flight qualities. If you follow the directions carefully the performance of this aircraft will surely please you.

Specifications:	Kit Contents:	
Length 36.5 in.	Fuselage 1	Fuel tank 1
Wing Span 55 in.	Wing panel 1	Wheels 2
Area 473sq. in.	PACK 1	Tail gear 1
Weight 3-4 lbs.	Stabilizer 1	Tail wheel 1
3.4-5lbs Electric	Pack 2	Control horn 4
Engine (2 Cycle Gas) 32-39		Control wire 2
(Aviox 14-12-2Y or		Hardware pack 1
equivalent)		Manual 1
		Decal kit 1

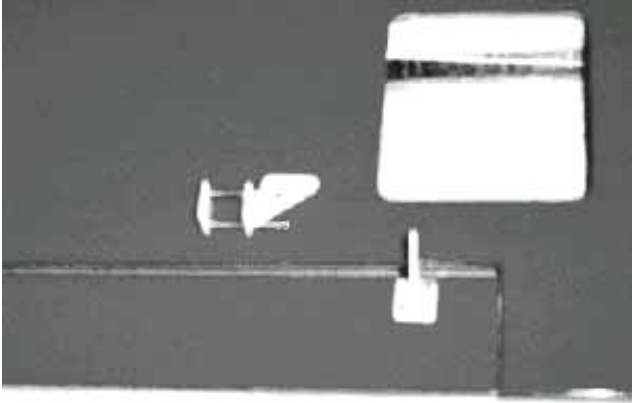
The following additional items will also be needed to build the F3D-30

HOBBY ITEMS:		
4 oz. 30 min. epoxy	Fuel line 10 inches	Masking tape
Hobby knife	Motor	Ruler
Med CA 1 oz.	Muffler	Felt tip pen
Radio 4-channel min.	Spinner	Screwdrivers
5 servos	HOUSEHOLD ITEMS:	Pliers
RTV silicone	Alcohol	Popsicle Sticks
		Paper towels

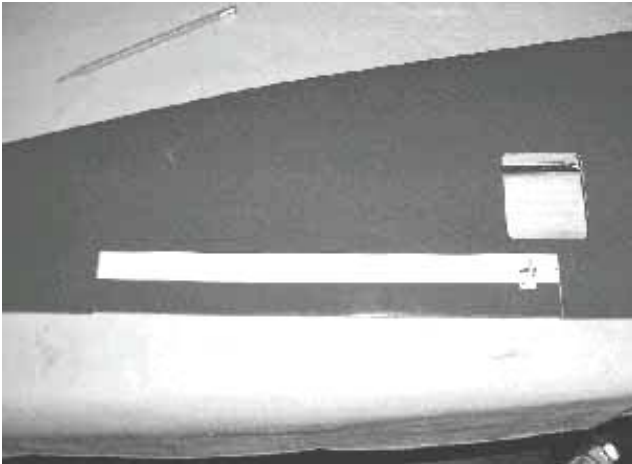
Read each step of the instructions carefully. Be sure you understand what is required and what the procedure is before you glue or cut anything. How well you assemble this model will have a direct effect on its flight characteristics.

WING ASSEMBLY

Install the aileron control horns supplied.

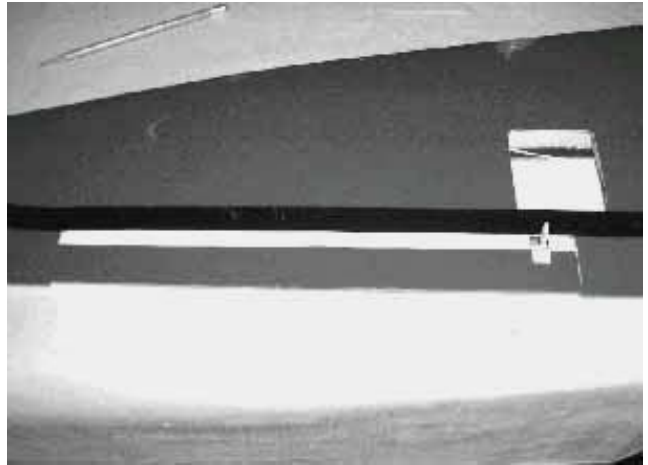


Cut two pieces of gap seal to the length of the aileron. Make a mark on the center of each end. Cut a relief opening to the center of the gap seal, at the location of the aileron horn.

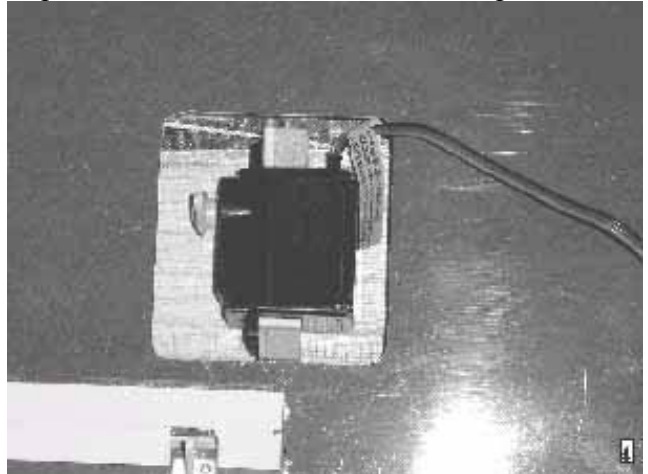


Apply a *thin* bead of canopy adhesive to the wing side of the gap seal only. **DO NOT GET GLUE ON THE AILERON.** Line up the center marks with the center of the gap, tape in place and allow to cure.

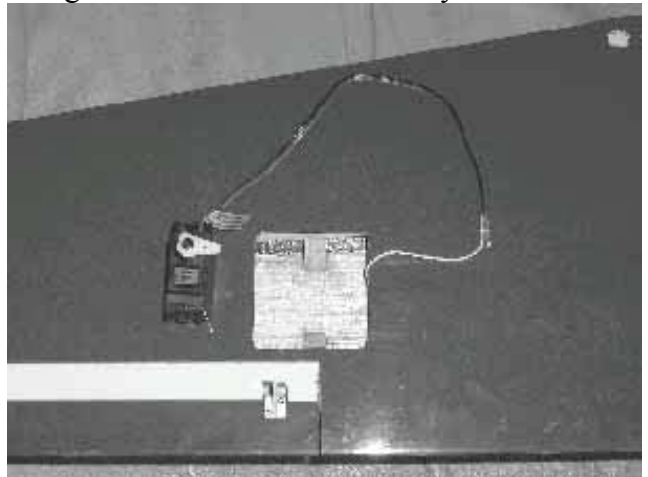
Because of the large number and sizes of available servos, the support blocks will need to be installed. Line up the servo output arm with



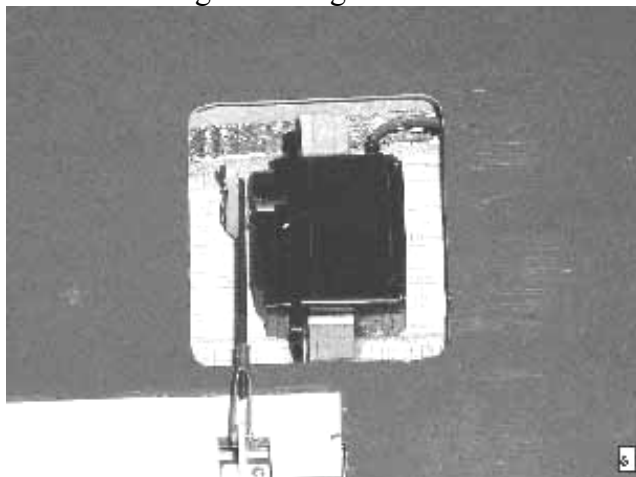
the aileron bellcrank and using 30-min. epoxy glue the servo blocks in place. The aileron servos require a minimum of 38 oz-in. of torque.



Check the length of the servo leads and add an extension if necessary. Attach the supplied pull strings to both servos and carefully work



the leads through the wing.



Be sure the servos are centered and the horn is correctly located. The servos do not get screwed to the blocks; secure them with servo tape, RTV silicone, canopy adhesive or any other method you prefer. After the servo glue has dried, use the supplied control rod to attach the servo to the aileron horn with a "Z" bend at the servo. Do not install the servo covers at this time,

GAS ENGINE INSTALATION

Test fit your engine in the fuselage, opening the cowl as necessary to fit. The mount has been pre drilled to fit most engines, should yours not fit, the holes may be relocated and the "T" nuts moved. Be sure your propeller/spinner does not hit the fuselage. Do not mount the engine at this time.



Assemble the fuel tank. Slide one long and one short tube through the rubber stopper. Install the inner and outer plates with the center screw, do not tighten. Bend the long vent tube gently to the top of the tank, be careful not to kink the tube. Install the rubber flop tube on the short tube, cut

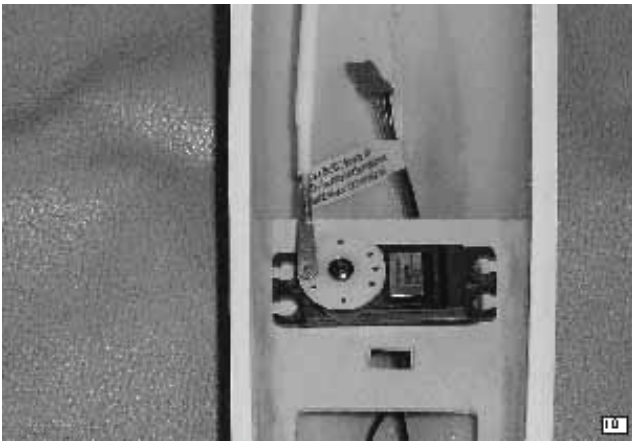
to a length that will prevent the clunk from hitting the back of the tank, install the clunk. Press the stopper in the tank and tighten the screw.



Install fuel lines on the tank, work the lines through the holes in the firewall. Pack the area around the tank with foam rubber for support. Hook the throttle push rod to the carburetor; install the engine and fuel lines.



Test fit and install the throttle servo following the manufactures instructions. Test servo direction then cut and install the throttle push rod.



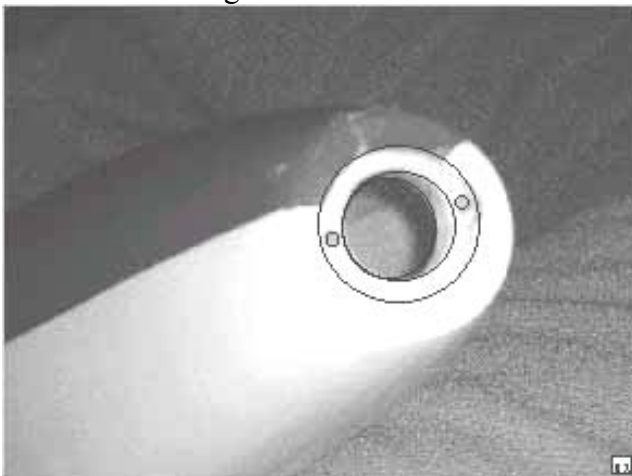
**PROCEED WITH STABILIZER
INSTALLATION**

ELECTRIC MOTOR INSTALLATION

Epoxy the two-plywood nose rings together, when cured sand the edges to fit the inside of the fuselage front.



When satisfied with the fit, epoxy the ring in front of the fuselage.



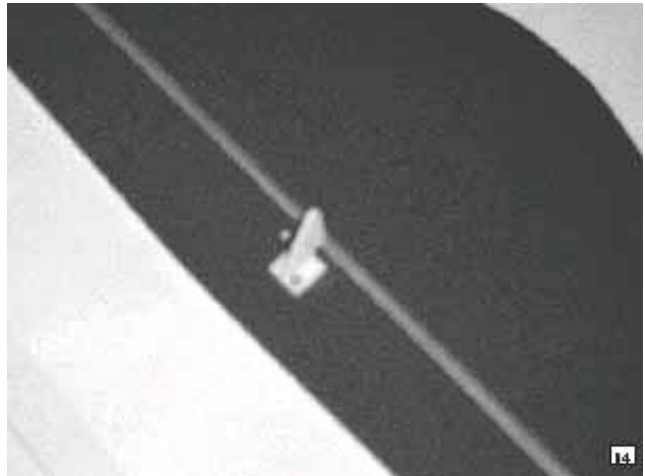
Install the motor and speed control, propeller adapter and propeller.

{ The Aviox 14-12-2y motor and controller in the prototype were supplied by Castle Creations 18773 W. 117th st. Olathe Ks 66061, phone number 913 438 6325, the battery pack was made by New Creations R/C Box 496 Willis TX 936 856 4630 }

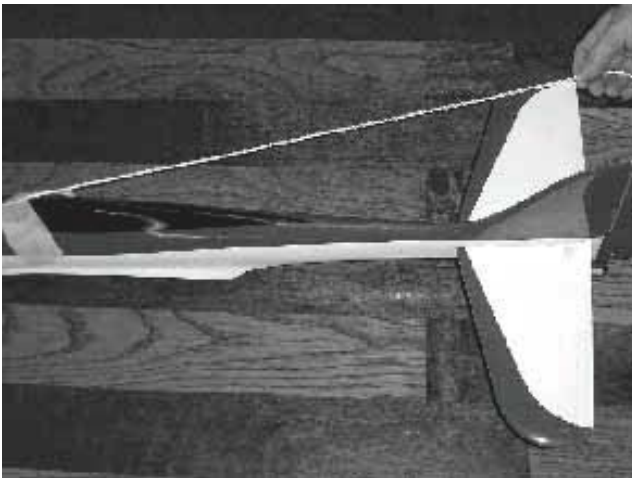


STABILIZER INSTALLATION

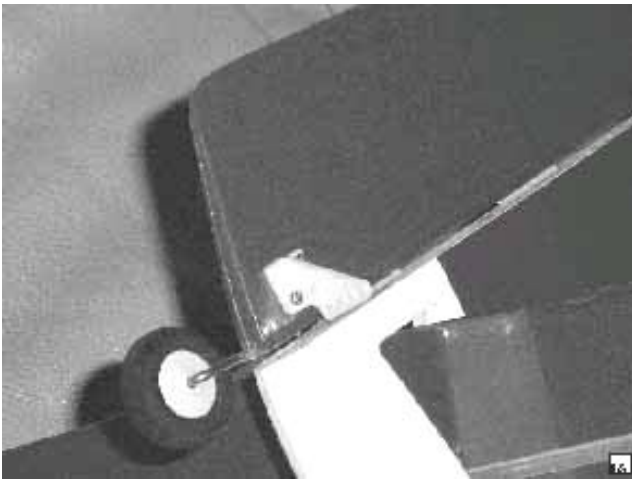
Install the elevator control horn as was done with the ailerons.



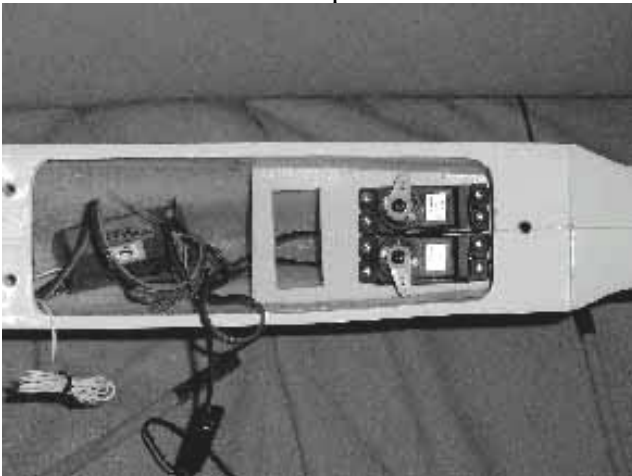
Slide the stabilizer into the fuselage. With a ruler, measuring from the fuselage to the end of the elevators centers it. Tape a string to the centerline of the fuselage over the canopy; go from one side to the other until it is square. When satisfied with the fit, apply a *small* bead of medium CA along the fuselage side {DO NOT USE ACCELERATOR}.



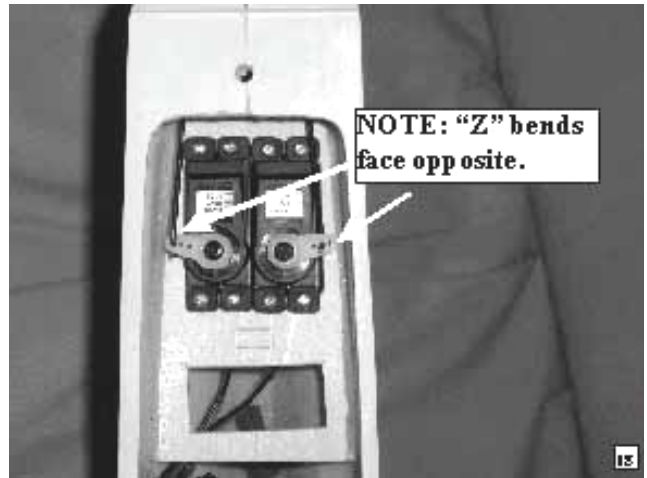
Install the rudder control horn.



Test fit and install the elevator and rudder servos. The control horns should point out as shown.



Fabricate and install the rudder and elevator control rods. The rods are made off-center, by rotating them any interference can be eliminated. Once their position has been established, install with a "Z" bend at the servo arm.



Install the wheels on the axles, then secure on the landing gear. Install the gear on the fuselage.



It is now time to set all the control throws. The elevator should have 3/16-inch travel up and down. The rudder should have 3/4-inch right and left. Ailerons should have 3/16-inch up and down. **WARNING!** *Too much travel will cause uncontrollable snap rolls.*



Test fit and install the aileron servo covers in the same way as the aileron gap seals, the control servo arm may need to be trimmed for clearance. Install the elevator gap seals the same way.

BALANCE

The center of gravity must be located from 2-1/4 to 3-inches behind the leading edge of the wing. Moving it to the forward side of the range will increase the stability of the aircraft, moving it aft will increase control response. We recommend the forward position for initial flight tests.

CONTROL DIRECTION

Double check all controls move in the proper direction

With your radio on, center all trims and adjust the clevises so all control surfaces are straight.

MOTOR SET UP

Be sure the motor is properly broken in using the manufacture instructions. Set the throttle throw to shut the motor off when the trim is pulled down and idles reliably with the trim up.

After the motor is set, run one tank of gas at full throttle, measure how much time it takes to run the tank dry.

CONGRADULATIONS you are now ready for test flights.

Before leaving for the field be sure your batteries are fully charged and you have all the required support equipment {fuel, starter, glow driver, charger ect.}.

Although the F3D-30 will fly well in wind, wait for a nice day.

At the field have a helper hold the airplane, following the radio manufactures instructions perform a range check of the radio. Do this with the motor off, run the motor and do it again.

Perform this test EVERY TIME YOU GO TO FLY!

TRIMING BASIC FLIGHT

The F3D-30 is NOT a trainer. A true hi-performance aircraft, it goes only where you point it and will not recover to level flight

without control input. If you do not have high performance experience seek the help of someone who does.

Line up on the center of the runway and slowly open the throttle, using the rudder to maintain directional control. Once the tail is up apply a little up elevator and allow the plane to gently lift off the runway. Keep the climb angle and turns shallow until you reach a safe altitude. Reduce the throttle to about 60% power. With the airplane flying away from you adjust the radio aileron trim tab till the wing stays level. Turn and line up the plane with the runway. Adjust the elevator trim till the plane maintains level flight. Once again with the airplane flying away from you adjust the rudder trim till the fuselage tracks straight {it may be necessary to correct the aileron trim after this procedure}. Continue to fly and trim until the aircraft is tracking well, land before the fuel or battery runs out. Carry a little power on final approach until over the end of the runway, then cut power to idle, hold the plane just off the runway till the airspeed bleeds off and the plane settles on. If the landing is too long add power go around and try again, don't try to force it to the ground. Now its time to zero out the trims. To do this measure the control location, center the trim tab on the radio and adjust the servo horn for large changes, the control clevis for small changes. For example if after the flight the rudder is 3/16 inch to the right, center the radio trim and adjust the clevis till the rudder once again measures 3/16 right. By doing this whenever you fly, setting the radio trims at center will result in a well-trimmed plane.

If you have followed the procedures in this Manuel you will now be rewarded with one of the finest flying sport models available. All primary aerobatic maneuvers are at your fingertips and the aircraft will perform them with ease.