

F-14 TOMCAT

BUILDING AND FLYING INSTRUCTIONS

The F-14 Tomcat is an ambitious building project. It requires a great deal of patience and persistence to successfully complete this model, but you will be rewarded with enormous satisfaction. This model is due to attract all attention on the ground, and in the air!

Before starting construction, you must acquire the wood, and as many pieces as possible necessary to equip the model. Once started, it becomes very difficult to gain access into the model should any adjustments be necessary. You need at least the following components before beginning construction:

- ✓ 2 Dynamax, Turbax III, or Bob Violet Model's fan units
- ✓ Electric Motor – Graupner Jumbo 540 FG3 (6V, 3:1 reduction gear)
- ✓ Ni-Cad Battery – 6 volts, 1800 mAh
- ✓ Minimum 6 Channel Radio, with programmable mixing to allow an aileron and elevator mix for the stabilators, and a 3-position switch for the wing sweep function
- ✓ 2 servos with a minimum of 70 oz/in torque for the stabilators, and standard or better servos for the throttles, steerable nose gear, rudders, and wing sweep (which can be fixed in place to simplify the model)
- ✓ All wood (balsa and ply), carefully selected for minimum weight
- ✓ All linkage rods, ball links, clevises (choose heavy duty hardware for the stabilator and throttle connections, which are subjected to vibration)
- ✓ 2 fuel tanks, minimum 14 ounces each (which might only provide 4-5 minutes of flight time)
- ✓ Metal & nylon tubes, as well as bar stock used to produce the gear legs, stabilator mechanism, and mechanics for the wing sweep element
- ✓ 4 ball bearings for stabilators - 9mm I.D., 17mm O.D.
- ✓ 4 ball bearings for wing pivots – 5mm I.D., 16mm O.D.
- ✓ 1 carbon fiber rod – 3mm diameter, 300mm length (approx. 12")
- ✓ 1 brass tube – 8mm I.D., 9mm O.D.

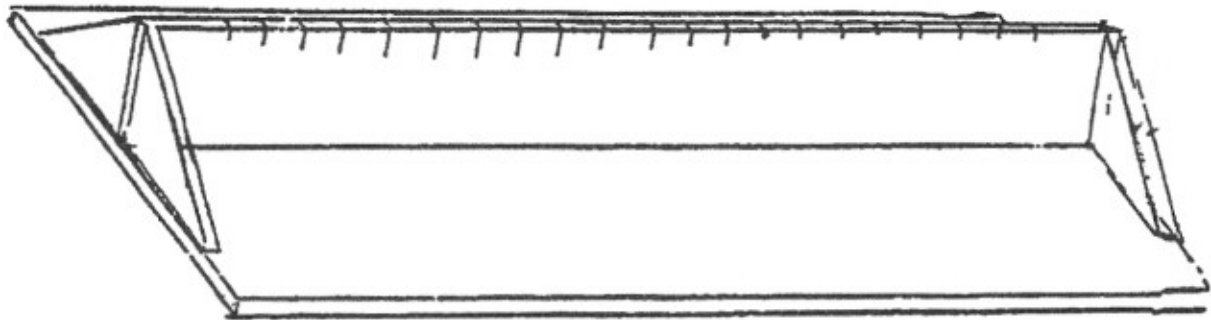
A note on the retractable landing gear:

AMT of Germany used to produce retracts for this airplane (part #1096B with 14Kg cylinders), but we are no longer able to get them. We recommend that you contact another company to see if anything has become available. Century Jet Retracts, Robart, or Yellow Aircraft might have something available that will work. In any case, it would be best to acquire landing gear before you start building the model.

Now you can start cutting all the wood pieces according to the template sheets. Use a spray adhesive on the template sheets, so that they can be removed later without leaving residue. If it is necessary to cut more than one part from the same template, stack the sheets together. You will need a few evenings of work to cut all the pieces, but once finished, you will be proud of the sophisticated kit that you produced yourself.

The construction starts with the wings. The plans show the possibilities of installing the flaps, spoilers, and slats, but we recommend that you build the model in the least complicated manner possible (i.e. without any control surfaces in the wings, except for the sweep function). We flew our prototype with only the stabilators, and it worked great!

You will have to make a fuselage-building jig from high-density white foam or Styrofoam (2.20m x 0.30m ~ 7.3ft x 1ft) mounted on a flat solid base (see picture below). Notches in the foam will receive the fuselage formers, with the top of the foam sheet as a fuselage datum line. Construction of the fuse starts with the aluminum frames (wing support) on their respective formers. Next, the whole central part, from C16 to C22 follows.



Position the wings and install the wing sweep mechanism. Use the main threaded rod, guides, slider made of heavy duty nylon, micro switches for end-point shutdown, and any other parts necessary to ensure correct functioning.

Build the front fuselage, install the electric Graupner Jumbo motor with noise traps in the appropriate position. The 6V/1800mAh battery will be positioned in the nose in order to avoid lead in the nose, so as to obtain the correct CG. There is a lot of weight in the back with the engines, fans, and tuned pipes! Test all the electric components for proper functioning. All fuselage formers are held relative to each other with small balsa sticks. In the end, it is the sheeting that brings the overall rigidity to the airframe.

A glass and resin finishing method is recommended for durability and a scale finish. Use lightweight cloth and epoxy resin.

The stabilators need to be balanced statically, which means the stab remains in any position it is placed. Lead usually must be added near the leading edge in order to accomplish this. This will prevent flutter at high speeds.

Before the first flight of the TOMCAT, be sure everything works correctly. You need 100% reliable engines. Check the CG, it should be at 30mm from the wing's leading edge measured on plan sheet #1. On the first production run of plans, it was at 69mm, which we discovered was too far rearward during initial flight testing. If the CG is too far back, it will result in a loss of control! The first flight should be done from a hard surface runway, with as much open space as possible. If you run up the engines too long on the ground, refill the tanks before getting airborne – those engines can be pretty thirsty! The engines should be fine tuned individually, as it is impossible to fine tune when the other engine is screaming.

We wish you many successful flights!

Canopies for this plane are available from The Hobby Barn @ \$19.99 ea.
Please call us at (520) 747-3633, or visit our website at
www.hobbybarn.com

F-14 TOMCAT Plan Captions (English conversions)

Sheet 1

lest(plomb): Lead Ballast

deacs: Battery

AMT 6 Kg / piston AMT 14 Kg: AMT Nose gear with Heavy Duty Cylinder

Logemont recepteur: Receiver Location

h. en fonction du moteur: Height Depending on Motor

bonbonnes train rentrant: Air Supply for Retracts

reservoir supplementaire: External Fuel Tank

Sheet 2

train dvant: Nose Gear

train principal: Main Gear

triplex: Plywood

air comprime pour train: Air Supply for Retracts

acces: Access Hatch

acces mec. aile: Wing Mechanism Access Hatch

guide anti-roulis: Anti Wing Flex Guide

remplissage bonbonnes air: Air Fill Valve

reservoir (1 moteur) 400cc: Fuel Tank (1 engine) 11 oz. - gives about 5 minutes flight time on an O.S. 77 VR DF

Sheet 3

balsa triplex: Either Balsa Plywood or Very Light Plywood

triplex: Plywood

recouvrement balsa: Balsa Sheeting

tuberaison: Brass Tubing

voir detail: See Detail

lamelle colle: Laminated Plywood

deflecteur: Lens

sapin bois dur: Spruce

ampoule: Light Bulb

bec d'aile: Wing Slat

Sheet 4

gabarit cockpit: Canopy Mold
support train: Retract Location
voir detail porte de roue: See Gear Door Detail
axe avion: Aircraft Datum Line
axe moteur: Engine Datum Line
fixation train avant: Nose Gear Retract Location
emplacement servo de direction roue avant: Nose Gear Steering Servo Location
trappe servo: Servo Access Hatch
pour portes de roue voir detail plan 2: For Gear Door Details on Sheet 2
entre C13 et C15 a prévoir caisson pour reception, ouverture par le bas:
Receiver Location Between C13 and C15, Access via Bottom
h. en fonction du moteur: Height Depending on Motor
axe moteur: Engine Datum Line
chariot: Slider
pour portes de roues: For Gear Doors
voir detail portes de rous: See Gear Doors Detail
entre D19 et C21, caisson amp evoir pour deacs (ouverture par le bas): Battery Location
Between C19 and C21, Access via Bottom
trappe: Access Hatch

Sheet 5

aile: Wing
axe de pivot d'aile : Wing Pivot Axis
voir detail support (alu): See Wing Support Detail (Aluminum)
entretoise bois lammelle (voir detail): Hardwood Standoff (See Detail)
logement deacs: Battery Location
guide anti-roulis: Anti Wing-Flex Guide
supports pour fixation du train: Retract Mounting Brackets
bois dur 10/10 support turbine: 7/16" Hardwood Fan Mounting Beams
support servo moteur: throttle servo mounting
coiffe en polyester: Fiberglass Engine Cover Cap
trappe access moteur + turbine: Engine & Fan Access Hatch
reservoir: Tank
support servo profondeur: Stabilator Servo Mounting
supports servo direction: Rudder Servo Mountings
supports renvoi direction: Rudder Bellcrank Mounting
couple: Bulkhead

Sheet 6

inox: Stainless Steel

stub: Stub Steel

bielle d'aile: Wing Connecting Rod

train principal: Main Gear

roues de 90mm: 3 1/2" Wheels

via mene" Main Threaded Rod 6mm or 1/4"

chariot alu: Aluminum Slider

pivot d'aile: Wing Pivot Axle

anti-roulis: Anti Wing Flex

ech. 2,1: Shown Twice Scale

supports d'aile: Wing Brackets

a evider: Hollow Out

entretoise (sup d'aile): Wing Bracket Standoff

piece d'aile alu: Aluminum Wing Part

roulements: Ball Bearings

train avant: Nose Gear

entretoise: Standof

cartouche de chasse videe des plombs: Shotgun Charge (Lead pellets Removed)

tube alu 20mm int: 20mm Aluminum Tubing

ressort: Spring

persuteur: Detonator

anneaux triplex: Plywood Rings