to order No. 4243

Building instructions

Mosquito

Technical data	sailplane model	electric-powered model
wing span	98 1/2"	98 1/2"
fuselage length	43 5/16"	43 5/16"
length o. a.	45 11/16"	45 1/4"
wing area	682 sq. in.	682 sq. in.
stab area	116 sq. in.	116 sq. in.
total surface area	798 sq. in.	798 sq. in.
weight ready to fly, depending on R/C gear installed	39 ozs.	57 ozs.
total surface area loading	.72 ozs. per sq. ft.	.103 ozs. per sq. ft.
electric motor	–	JUMBO 540 F G6
gear ratio	–	6 : 1
propeller	–	2-bladed folding propeller, 14 1/2" diam.

Lightweight R/C sailplane model for thermal and slope soaring, powered gliding and single-motor electric flight

Accomodates proportional R/C equipment

An „exploded view" drawing
of the model is supplied as supplement to the German-language building instructions. Remove it from the center pages; it will prove a big help when you study the ensueing instructions.

For illustrations refer to German text please.

Fig. 1 3-view MOSQUITO

Printed in Germany

JOHANNES GRAUPNER · 7312 KIRCHHEIM/TECK · GERMANY

Graupner

to Ind. No.
N. C.
per No di listino 4243

Mosquito

NNES GRAUPNER · 7312 KIRCHHEIM/TECK · GERMANY

General

The lightweight R/C thermal soarer MOSQUITO has been expressly designed for minimum airframe weight in order to ensure low wing loading and to achieve the ultimate in performance. Thanks to clever design low weight has been achieved without any sacrifice in airframe strength. MOSQUITO is a versatile multi-purpose model.

1. R/C sailplane model

Tow launch: perfect towing characteristics. Thanks to its excellent glide performance the model responds readily to even the weakest of thermals.

Slope soaring: soars well in even the lightest of winds. By slightly moving the center of gravity forward (see p. and Quickbuild plan) and by adding a suitable amount of ballast (up to 400 g = 14 ozs.) stored in the battery compartment for improved penetration, the model can be adapted to breezing up winds by making it fly faster.

2. R/C powered sailplane

Equipped with either engine mount No. 164 or engine gondola, order No. 62, the model climbs to a great height for the ensueing gliding or soaring flight. The conversion can be performed quickly and easily.

3. Single-motor electric flight

Another big stride forward has been achieved in the field of electric-powered flight. As is well known by now electric systems are completely free of environmental problems, they are economic, permit remotely controlled switching off and on, respectively, of the powerplant, are extremely reliable, easy to operate and maintain, and to top all that off: there are no flying field problems either, no trouble with neighbours and communities.

Another interesting aspect of MOSQUITO is its instant convertability from electric powered model to a sailplane proper and vice versa. All one has to do is remove the prop and to re-attach the spinner. The battery compartment is left empty and may be closed by a cover. Electric motor and extension shaft are left in the model. Trim changes caused by conversion are negligeable. Re-conversion from sailplane to electric-powered model is equally simple and quickly performed.

The building instructions

generally follow the sequence of the part numbering; they refer to the assembly of the lightweight R/C thermal soarer variant.

ATTENTION! Parts Nos. (77) through (88) have not been occupied!

Instructions for the installation of R/C gear in the lightweight R/C thermal soarer version are provided by the R/C installation plan. Information concerning the conversion of MOSQUITO to an electric-powered model are provided in the electric drive installation plan and the instructions supplied with same.

The decision which variant you are going to build – either the electric-powered model or the R/C sailplane model – must be made prior to commencing with the assembly as a midway change of opinion may create some problems.

Whenever components of the R/C gear or the electric propulsion system have to be installed in the course of the assembly, this is mentioned in the text and indicated by a characteristic symbol printed on the margin of the page in question. The meaning of these symbols is explained at the end of the chapter. The contents of the kit are die-cut, milled and pre-cut, respectively. A prominent feature are the laminated balsa/veneer fuselage sides and fuselage bottom. The die-cut lateral notches of fuselage sides (1), (2) are used to transfer the positions of the formers etc. to the sides.

Cautiously remove all die-cut balsa parts from the balsa sheet supplied, using a sharp balsa knife, and de-fuzz them. Saw out the partially die-cut plywood parts using a scroll saw; de-fuzz these parts too. On principle all parts should be dry-fitted and mated to eachother. Use various grades of sanding paper.

Arrange all parts of the various assembly groups – fuselage with fin, wing and stabilizer – in their proper numerical order. Select a straight and plane soft wood board of suitable size for your building board. The various assembly groups may be assembled over the plan; pin the latter to the building board and cover it by a sheet of non-sticking transparent paper or plastic film.

Some of the parts, such as Nos. (16), (26), (28), (30), (49), (146), (147) must be assembled from several parts, which have to be cemented as per plan.

Be sure to constantly use the plan, exploded view, R/C installation plan, electric drive installation plan, photographs, list of materials and stripwood key throughout the assembly of the model.

RC R/C installation

RC⚡ R/C electric-powered flight

Whenever these symbols appear on the margin they indicate that parts of the R/C equipment or the electric propulsion system have to be installed prior to proceeding with the assembly of the model. Later changes may cause problems

Fuselage with fin

are assembled from parts (1) through (57).

The veneer layers of the fuselage sides (1), (2) are conically tapered as per isometric view to permit fairing in the triangular mouldings.

Transfer positions of formers and braces from plan onto fuselage sides. Then fit triangular mouldings (3), (4), (5) and parts (6), (7), apply cement, pin parts to building board until the cement has set. Use formers (14) and (17) for a gauge when marking the position of part (7).

Fit fairing (8), uprights (8), (10), then cement them fast.

Fig. 2 Right and left fuselage sides with corner strips cemented in place. Fuselage bottom part in the foreground.

RC File slots for the outer tube of the Bowden cable in the fuselage top part (11) and the starboard fuselage sides (1). See R/C installation plan.

Pin top part to building board, cement crossbraces (12), (13). Then chamfer the ends of the fuselage sides (as per isometric sketch), cement sides in position with formers (14), (15), (17), line up assembly, pin fast.

RC Cement the two outer tubes of the Bowden cable in place (use STABILIT-express) as per R/C installation plan. Do not yet cement the tubes to former (15).

RC⚡ Transverse panel (16), consisting of several parts glued together, is now fitted and cemented in place. Provide a hole in part (16) for passing through the leads. Press front end of fuselage together with elastics.

Permit cement to dry thoroughly. Then remove fuselage from building board, fit and cement the forward formers (18) – (23). Align the fuselage. Press fuselage sides and formers together with elastics or (cautiously!) with clamps. Allow glueing stations to set thoroughly. Sand off all parts standing proud of part (23), flush with the latter, then add former (24). Chamfer veneer layer on either side, as per isometric sketch, so as to permit proper fairing the triangular molding at the fuselage bottom (29). Add cross braces (12), (13), to part (29).

Fig. 3 Fuselage during assembly; in the foreground the fuselage bottom with reinforcements cemented in place.

Cement the fuselage bottom in place, secure in position with pins. Then fit and cement fairings (25) on the right and left side. The two wing supports (26) and fairing (27) are fitted and cemented. Cement the two stabilizer supports (28) at the rear end of the fuselage.

The two fairings with corner braces (30a), 1 left, 1 right, are prepared and cemented, as per isometric diagram on plan.

RC Cement front fairing (31), canopy front former (32) to fuselage. He who plans to operate the model as a sailplane only may cement the fuselage nose block (33) right now. If the model is to be flown electric-powered as a rule, part (33) should not be cemented in position, however. Refer to the electric propulsion system installation plan and relevant instructions for further information.

Canopy frame (34), front and aft canopy formers (35), (36) with auxiliary mouldings (37) are fitted together on the fuselage and cemented to eachother. Insert a sheet of non-sticking paper or plastic foil between canopy framework and formers and fuselage, so canopy components are not glued to the latter.

After glueing stations have thoroughly set drill holes through the canopy frame (pinned in place) and adjoining fuselage components for dowel (38) and lock pin (40) fashioned as per plan. Ream the hole for guide tube (39) to suit in a later phase, cut tube to proper length and cement it in the hole, using UHU-plus „endfest 300" or STABILIT-express (not contained in the kit). Cement dowel (38) well to former (36). Cut out canopy (41), trim and fit, glue to framework, working with care. Be sure not to warp the framework in the process!

Important notice
Be sure to bend lock pin (40) for the canopy to a slightly ondulating shape in order to provide a firm friction fit in the guide tube (39). Friction prevents the pin form moving forward accidentally and blocking the propeller as a result.

Now fit and cement the stab platform (42). Be sure to check for correct shape as it must fit the bottom side of the stabilizer properly at all stations!

Fit and cement parts (43) – (46) now, if the model is to be flown as a glider. In the case of the tow hook (43) use metal cement in the fuselage to ensure a firm bond.

RC He who plans to use MOSQUITO exclusively as an electric-powered model need not install tow hook (43) and part (44). In the case of the electric-powered variant the belly skid should run uninterrupted over its entire length. Tail skid (47) is cemented to the lower face of the fuselage bottom.

RC Cut out rudder (57), slot rudder and fin (48) for the rudder hinges and fit the latter. Then saw out the circular lightening holes and sand parts as per plan. The fin is then carefully cemented to the fuselage, as are dorsal strake (49) and corner braces (50). Align assembly carefully and secure in position with pins until glueing stations have fully set.

Fig. 4 The almost finished framework. The canopy has still to be assembled in this photo – a departure from the actual building sequence described in the instructions.

RC Nuts are cemented to the lower faces of the servo panels (51), (52), the latter are then fitted and cemented in place. The installation depends on the model variant selected by the modeller – R/C soarer or electric-powered model. See relevant installation plan. In the case of the lightweight soarer be sure to add part (53).

RC If desired the propeller of the electric-powered model may be protected by adding landing skid (54). This precaution is not really necessary, however, as a great many skid-less landings have shown.

Cut dowels (55) and (56) to proper length. Close fuselage end with scrap balsa.

RC The hinges connecting the rudder (57) with the fin should permit free, unhampered operation of the control surface.

The fuselage may now be sanded smooth. Use various grades of sanding paper and closely follow the cross-sections shown by the plan. Careful sanding is a must in the case of the electric-powered model. Each gram of "added lightness" virtually pays dividends by improving performance.

RC In the case of the electric-powered model holes must now be cut on either side of the fuselage for airscoops and vent holes; a recess for accomodating the airborne battery pack must be cut in the port side of the fuselage. See installation plan for the electric propulsion system and relevant instructions.

The horizontal tailsurfaces

are assembled from parts (58) to (76).

The surfaces are assembled on a plane building board. Pin the plan to the board and protect it by a sheet of waxed or other transparent non-sticking paper.

Start by pinning the main spar (58) to the board, then add trailing edge (59) and leading edge (60) (the latter consists of two parts), blocking parts (59) and (60) up to suit. The leading edge is butt-cemented at the center, the joint is reinforced by glueing joiner (61) in position.

Block up leading edge and trailing edge by uniform supports fashioned from 5/64" or 3/22" resp. balsa (see sectional view S-S), cut from die-cut fuselage side scrap.

Now fit, align and cement ribs (62) – (69); gussets (70), (71) provide additional rigidity.

Fig. 5 Assembly of horizontal tailsurfaces

After the glueing stations have thoroughly dried remove assembly from the building board, then fit and cement planking panels (72), (73) on top and bottom side, pin fast until dry. Sand off protuding ends of leading and trailing edges, flush with ribs (69), then add stabilizer
RC tips (74). When dry the stabilizer may be carefully sanded as per plan; cut slots for elevator hinges. Carefully cement keys (75) to planking panels (72), (73) at the bottom side of the stabilizer. Be sure to position them in such a manner that they accurately fit corresponding cutouts of platform (42) and that the stabilizer sits at right angles to the longitudinal axis of the model viewed from above. The stab must accurately fit part (42) to ensure correct angle of incidence. Fashion the elevator (76) as per plan from the roughly cut out material supplied. Sand to conically tapered section first, then cut oval lightening holes, file or saw slots for the elevator hinges. The elevator must be hinged freely movable, just like the rudder.

Fig. 6 Framework of the horizontal tailsurfaces

The wing

is assembled from parts (89) through (156).

ATTENTION! Parts Nos. (77) – (89) – between assembly groups tailplane and wing – have not been occupied! The wing consists of a starboard panel and a portside one.

If the model is to be equipped with engine gondola order No. 62 and the latter is to be fastened by b o l t s on the starboard wing panel, a mounting moulding should be installed now, while the panel is being assembled.

Start with the assembly of the port wing panel. Cut trailing edge and leading edge (89) – 92) to proper length and pin them to plan properly spaced. Block up the front end of the trailing edge with supports U2, as per plan (see sectional view 0-0). Be sure to insert supports (U2) under the trailing edge of the outer wing panel exactly as per plan to suit the camber of the lower wing camber required in that part of the wing. These supports, properly positioned, ensure the correct shape of the wing bottom surface which in turn is so important to flight performance. Cement ribs (93) – (124) and main spar top members (125), (126) in place. Use rib angle gauge (W) when inserting rib (93). After all glueing stations have set well the wing sections may be removed from the building board; insert and cement the main spar l o w e r members. Pin wing sections fast again, cement spar joints, fairings, main spar joiners (128) and (127). Be sure to cement these parts well; strength is so important. Press parts together while drying, secure with clamps or pins etc. Next step is to fit and cement rib (129) and planking support (130). Gussets (131) – (134) add rigidity. Roughen outer surface of tubes (135), (136) with a file, degrease them with SPANNFIX-thinner and cement them firmly in place with UHU-plus "endfest 300" (not contained in the kit).

Fit and cement web mouldings (137) into gaps between upper and lower main spar members of the first three rib stations. Cement these parts thoroughly!

Fit webs (138) – (143) and cement them well, too.

Fig. 7 The two wing panels. The starboard panel, in foreground, still without planking.

The leading edge is carefully faired into the upper and lower rib contours and all protuding parts are sanded flush.

Planking panels (144) – (148) may now be added. Put wing down on plane board in order to avoid warps. Sand protuding ends of planking panels flush with the leading edges (91) and (92). Then add leading edges (149) and (150). After the cement has thoroughly set sand these leading edges to proper airfoil section contours.

Parts (151) and (153) are added next.

The wing panel is now sanded with great care and bracing wire (152) is attached by cementing it with a strip of Perlon ribbon. The wire brace prevents the wing attachment elastics from crushing the trailing edge. Fit cap strips (156) next and cement. Same procedure is used in the assembly of the starboard wing panel. The two wing panels are joined to eachother by dowels (154) and (155).

Primer coat

The decision as to which balsa parts require a primer coat of GLATTFIX-porefiller depends on the mode of covering selected for the parts in question; refer to relevant information in the following chapters. Balsa parts in question get two coats of GLATTFIX-porefiller, order No. 207 (not contained in the kit). Allow to dry thoroughly between coats, then sand carefully with very fine sanding paper.

Covering the model

A with POLYESTER covering foil

O n l y the fuselage is treated with GLATTFIX-porefiller. All balsa parts that are going to contact the covering film must n o t be treated with GLATTFIX-porefiller.

For electric-powered flight lightness is a great advantage and for this reason POLYESTER film of the TL and TLT variety is recommended, because these films dispense with the necessity for additional varnish coats. It must be mentioned, though, that these films do not adhere to the framework of wing and empennage as strongly as does glued-on and varnished paper covering material. This means that the torsional stiffness of a film-covered wing is slightly lower than that of a paper-covered wing, but the difference is not a big one.

Of the currently available range of covering films the transparent TLT variety, order Nos. 130/1, 130/2, 130/4, 130/10 are particularly lightweight. For hints on the application of these films refer to relevant instructions, please.

Preferably use covering films in the case of wing panels, vertical and horizontal tailsurfaces only. The fuselage should be covered with JAPICO MODELSPAN and JAPANESE SILK, respectively.

B with JAPICO MODELSPAN and JAPANESE SILK, respectively

A l l parts coming in contact with this type of covering are given a primer coat of GLATTFIX-porefiller; see chapter „Primer coat".

The paper covering is applied with GLUTOFIX paper glue, with the grain of the paper running spanwise, otherwise wrinkles will develop! After the glueing stations have thoroughly dried moisten the coveringlightly with water. After the latter has evaporated the covering will shrink taut.

The strength of the fuselage will be increased if the latter is covered with JAPANESE SILK, order No. 613 (instructions for application supplied in pack). Material for silk-covering the fuselage is not included in this kit.

In order to keep flying weight down the fuselage of the electric-powered variant should be covered with coloured, preferably yellow, JAPICO tissue paper, which eliminates the need for a special colour finish.

Finishing JAPICO tissue paper- and JAPANESE SILK-covered components

Apply 3 – 5 coats of heavily thinned clear SPANNFIX-Immun (order No. 1408/1) to wing and empennage. Pin these components to the building board for several hours after application of each coat. The outermost rib of the outer wing panel is blocked up 13/64" at the rear end to provide the correct amount of washout required for better stability and improved circling flight characteristics. For the colour finish use fuel-proof SPANNFIX-Immun, order No. 1408/2–16; colour to suit. The illustration on the box lid may well serve as a guide for an attractive colour scheme.

Weight is critical in the case of the electric-powered model, so be sure to use varnish particularly sparingly. Recommended colour finish: give wing and empennage coats of clear SPANNFIX-Immun; apply decorative colouring, e. g. the three differing colour shades, at the leading edges of wing and stab only.

Coloured varnishes are heavier than the clear variety. They should therefore be used very sparingly in order to keep the weight of the model down, otherwise performance may suffer!

This requirement is particularly important in the case of the electric-powered model as weight reduction, however small, pays dividends in improved rate of climb and altitude.

Decals

Carefully clean the area where a decal is to be applied of dust, dirt and grease. Cut out individual patterns of decal. Immerse pattern to be applied c o m p l e t e l y in water for approx. 10 seconds; 20 seconds at the most. R e m o v e from water, lay out flat for approx. 1 minute, paper side facing downward, until film moves readily.

Then slide decal past edge of paper backing to appropriate station on plane. Smooth down firmly with dry clean cloth in order to remove air bubbles and excess water.

Proceed in same manner with remaining cut-out patterns.

Caution!
If decal is not submerged long enough it may tear appart; if soaked excessively the glue may loose part of its gripping power.

The installation of R/C equipment

is covered fully and in detail in the RC installation plan 75.

The installation of the electric propulsion system

is described in the electric drive installation plan.

Assembly of the R/C sailplane model (without electric propulsion system, pylon engine mount and engine gondola)

Insert dowels (154), (155) into corresponding tubes (135), (136) of one of the wing panels and slip the other wing panel in place.

The dowels may be flexibly secured in one of the panels using contact glue. Put wing on fuselage and use two elastics wrapped about the dowels on either side to secure it in position.

The stabilizer is put on its platform (42) with keys (75) properly engaged. The stabilizer must rest properly on its platform. Again elastics wrapped about the two dowels serve to hold the stab in position. The elastics are pulled through the cutouts in the elevator.

This type of attachment is recommended for landings made in high grass. For all other landing fields the stab may be cemented to platform (42), a method which cuts both weight and drag. On the other hand fastening the stab rigidly increases markedly the danger of damaging the model on landing.

Instructions for the assembly of the model equipped with the pylon engine mount, the engine gondola or electric propulsion system are provided in the relevant building instructions.

Balancing the model

requires great care, as the proper position of the center of gravity determines performance and flight characteristics of a model.

Two center of gravity positions are shown in the fuselage side view

a) 80 mm = 3 5/32" aft of the wing leading edge
b) 73 mm = 2 7/8" aft of the wing leading edge

Both of them are applicable to sailplane, powered soarer and electric powered model.

a). aft c.o.g. position (80 mm = 3 5/32")

Should only be used under still air conditions, for tight circling in thermals. If flying under these conditions requires a reduction of wing/stab decalage, that is the angular difference between the angles of incidence of the two surfaces, this can be accomplished by adjusting the elevator linkage accordingly.

b) forw'd c.o.g. position (73 mm = 2 7/8")

for non-calm weather conditions and slope soaring under such conditions.

The model supported at the appropriately selected center of gravity position at either side of the fuselage should balance, preferably with the nose pointing slightly downward.

Corrections, if any, of the center of gravity position can be achieved by moving the power supplies fore or aft, as the case may require, or by permanently attaching the required amount of sheet lead, order No. 548 (not contained in the kit) at an appropriate station.

If MOSQUITO is to be flown in high winds as a radio controlled sailplane, its wing loading may be increased and its penetration improved by adding a suitable amount of lead ballast. Adding the sheet lead ballast must not alter the center of gravity position. Such ballast weight must be firmly anchored in the model. Secure it in place so it can't drop out or move. The model when ballasted in this manner is no longer capable of flying aerobatic maneuvers as stunting would excessively stress the airframe.

The electric-powered model can be quickly and easily converted to the sailplane variant and vice versa. In each case the motor is left in the model. For particulars refer to the electric propulsion system installation instructions.

Testflying

A. R/C lightweight thermal soarer and R/C powered glider

Check angular setting of wing and stabilizer as well as firm seat of both components on the fuselage.

Under any circumstances wing and empennage components must not be warped. Warps, if any, must be removed prior to attempting to testfly the model. Apply a coat of thinned dope to a warped part and pin it to the building board until thoroughly dry again.

If a final check indicates that everything is in order, select a calm or near-calm day for initial flights. They should be made over a flat, slightly sloping grassy terrain. Launch MOSQUITO with a gentle push in a slightly d o w n w a r d direction a g a i n s t (i n t o) t h e w i n d. Never launch the model in an upward direction! It must glide straight and very flat. If it doesn't check the center of gravity position once again. If necessary add or remove ballast weight, as the case may require. If center of gravity is properly positioned change elevator trim by adjusting the control linkage accordingly.

After the model has been properly trimmed it may be flown at the slope or tow launched under remote control, using the controls with great caution at first.

Pylon engine mount, order No. 164, or engine gondola, order No. 62, help you get the model up to great altitude for the ensueing glide for soaring flight in case there is no helper on hand for tow launching the model. Be sure to check the center of gravity position of the model after installation of either pylon engine mount or engine gondola, before launching the model converted in this manner.

It is good practice to limit the engine run to some 30 – 60 seconds during the early phase of testflying by partially filling the tank.

The engine gondola accomodates the 1.5 cc COX MEDALLION 09 engine only. As this engine has lots of power to spare the r.p.m. and its output must be reduced ("rich" mixture) when flying. Be sure to follow instructions supplied with the engine gondola.

B. Electric-powered R/C model

Hints for testflying the electric-powered variant are supplied with the electric propulsion system installation instructions.

On principle make sure after each flight and prior to the following one, respectively, that the stabilizer is correctly attached and rudder and elevator linkages work properly without binding. When a model lands in grass or weeds the stabilizer may get dislocated and a linkage get disconnected.

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7/75/I edition

List of materials MOSQUITO

Part No.	Designation	Amt. req.	Material	Dimensions in inches
1	fuselage side right	1	balsa/veneer	7/64–5/64, a.t.p.
2	fuselage side left	2	balsa/veneer	7/64–5/64, a.t.p.
3	triangular molding, top, aft	2	balsa	23 27/32 x 1/4 x 1/4
4	triangular molding, top, front	2	balsa	8 19/32 x 1/4 x 1/4
5	triangular molding, bottom	2	balsa	42 1/8 x 1/4 x 1/4
6	brace	2	pine	18 13/32 x 13/64 x 5/64
7	support molding	2	balsa	10 1/8 x 13/64 x 1/8
8	fairing	2	balsa	5/64, a.t.p.
9	upright	2	balsa	1 55/64 x 5/16 x 5/64
10	upright	2	balsa	1 1/2 x 5/16 x 5/64
11	fuselage top	1	balsa	5/64, a.t.p.
12	cross brace	2	balsa	1 1/16 x 5/16 x 5/64
13	cross brace	2	balsa	51/64 x 5/16 x 5/64
14	former	1	plywood	1/16, a.t.p.
15	former	1	plywood	1/16, a.t.p.
16	transverse panel (several parts)	1	balsa	5/64, a.t.p.
17	former	1	plywood	1/16, a.t.p.
18	auxiliary former	1	plywood	1/16, a.t.p.
19	canopy end former, aft	1	plywood	5/64, a.t.p.
20	former	1	plywood	1/16, a.t.p.
21	former	1	plywood	1/16, a.t.p.
22	former	1	plywood	1/16, a.t.p.
23	former	1	plywood	1/16, a.t.p.
24	former	1	plywood	1/16, a.t.p.
25	fairing (1 right, 1 left)	2	balsa	5/64, a.t.p.
26	wing support	6	balsa	each 3 x 5/64 = 1/4 thick a.t.p.
27	fairing	1	balsa	a.t.p.
28	support	4	balsa	each 2 x 5/64 = 5/32 thick, a.t.p.
29	fuselage bottom	1	balsa/veneer	7/64 – 5/64, a.t.p.
30	fairing, 1 left, 1 right (several parts)	2	balsa	each 3 x 5/64 = 1/4 thick, a.t.p.
30a	corner brace	2	plywood	1/16, a.t.p.
31	front fairing	1	balsa	a.t.p.
32	canopy end former, forw'd	1	plywood	3/64, a.t.p.
33	fuselage nose block	1	balsa	a.t.p.
34	canopy frame	1	plywood	3/64
35	canopy former, front	1	plywood	3/64
36	canopy former, aft	1	plywood	3/64
37	auxiliary strip	2	balsa	3/32, a.t.p.
38	pin	1	beech dowel	13/32 x 1/8 Ø
39	guide tube	1	brass	19/32 x 5/64 OD, 3/64 ID
40	lock pin	1	springsteel wire	1 1/4 x 3/64 Ø
41	canopy	1	plastic	comm. item
42	stab support	1	plywood	3/64, a.t.p.
43	tow hook	1	iron	comm. item
44	adapter	1	plywood	13/32 x 1/4 x 1/16
45	skid, front section	1	pine	12 7/16 x 13/53 x 5/64
46	skid, aft section	1	pine	9 1/4 x 13/64 x 5/64
47	tail skid	1	balsa	5/64, a.t.p.
48	fin	1	balsa	5/32, a.t.p.
49	dorsal strake (2-parts)	1	balsa	2 x 5/64 = 5/32 thick a.t.p.

List of materials MOSQUITO

Part No.	Designation	Amt. req.	Material	Dimensions in inches
50	corner brace	2	balsa	8 25/32 x 1/4 x 1/4, triangular
51	servo panel	1	plywood	2 39/64 x 1 31/32 x 1/16
52	servo panel	1	plywood	2 1/4 x 1 31/32 x 1/16
53	tube support	1	balsa	2 9/32 x 13/32 x 5/64
54	landing skid	1	plywood	1/16, a.t.p.
55	wing dowel	2	beech dowel	3 15/32 x 13/64 Ø
56	stab dowel	2	beech dowel	1 1/2 x 5/32 Ø
57	rudder	1	balsa	5/32, a.t.p.
58	main spar	1	balsa	21 9/32 x 27/64 x 1/8
59	trailing edge	1	balsa	21 9/32 x 7/32 x 13/64
60	leading edge	2	balsa	10 43/64 x 17/64 x 13/64
61	l. e. joiner	1	balsa	3/32, a.t.p.
61	l. e. joiner	1	balsa	3/32, a.t.p.
62-69	rib (2-parts)	2each	balsa	1/16, a.t.p.
70	gusset	2	balsa	3/32, a.t.p.
71	gusset	2	balsa	3/32, a.t.p.
72	planking, front	2	balsa	1/16, a.t.p.
73	planking, aft	2	balsa	1/16, a.t.p.
74	tip	2	balsa	13/32, a.t.p.
75	key	2	beech dowel	7/16 x 5/32 Ø, split lengthwise
76	elevator	1	balsa	22 1/16 x 1 25/32 x 5/32
	ATTENTION! Parts Nos. 77–88 not occupied!			
89	trailing edge	2	balsa	30 7/32 x 51/64 x 13/64
90	trailing edge	2	balsa	19 15/32 x 51/64 x 13/64
91	leading edge	2	balsa	29 31/32 x 13/32 x 1/8
92	leading edge	2	balsa	19 11/32 x 13/32 x 1/8
93	rib	2	balsa	1/16, a.t.p.
94	rib	2	plywood	1/16, a.t.p.
95	rib	2	plywood	1/16, a.t.p.
96-124	rib	2each	balsa	1/16, a.t.p.
125	main spar	4	pine	29 29/32 x 13/64 x 1/8
126	main spar	4	pine	19 11/32 x 13/64 x 1/8
127	main spar former	4	plywood	3/64, a.t.p.
128	main spar former	4	balsa	3/32, a.t.p.
129	rib (2 parts)	2	balsa	1/16, a.t.p.
130	support	2	balsa	1/16, a.t.p.
131-134	gusset	2each	balsa	3/32, a.t.p.
135	tube	2	metal	3 5/32 x 7/32 OD, 3/16 ID
136	tube	2	metal	3 5/32 x 5/32 OD, 1/8 ID
137	web moulding	14	balsa	18 29/32 x 13/64 x 1/8, all

List of materials MOSQUITO

Part No.	Designation	Amt. req.	Material	Dimensions in inches
138	web	4	plywood	3/64, a.t.p.
139	web	16	plywood	3/64, a.t.p.
140	web	8	plywood	3/64, a.t.p.
141	web	8	balsa	3/32, a.t.p.
142	web	8	balsa	3/32, a.t.p.
143	web	46	balsa	5/64, a.t.p. total length 72 1/2
144	planking, top, center section	2	balsa	29 15/16 x 2 7/16 x 1/16
145	planking, top, outer section	2	balsa	19 11/32 x 2 7/16 x 1/16
146	planking, top, 2-parts	2	balsa	8 9/32 x 4 11/16 x 1/16
147	planking, bottom, 2-parts	2	balsa	5 33/64 x 4 11/16 x 1/16
148	planking, bottom	2	balsa	8 15/32 x 2 1/64 x 1/16
149	leading edge	2	balsa	29 15/16 x 13/32 x 9/32
150	leading edge	2	balsa	19 11/32 x 13/32 x 9/32
151	tip	2	balsa	13/32, a.t.p.
152	bracing wire	2	iron zinc-plated	3 5/32 x 1/16 Ø
153	facing rib	2	plywood	3/64, a.t.p.
154	joiner pin, front	1	steel	3 15/16 x 11/64 Ø
155	joiner pin, aft	1	steel	3 15/16 x 1/8 Ø
156	rip cap	10	balsa	42 3/4 x 13/64 x 1/16, all

a.t.p. = according to plan; true dimensions of part(s) in question must be derived from the plan.

Sheet and strip wood key MOSQUITO

This table is intended to advise the modeller in the proper use of the stripwood and sheet material contained in the kit. Where necessary ample reserve material has been provided.

Amt.	Material	Dimensions in inches	Required for part(s)
5	balsa	42 17/32 x 1/4 x 1/4	3,4,5,50, triangular
2	balsa	27 9/16 x 13/64 x 1/8	7, 137
5	balsa	31 1/2 x 27/64 x 1/8	58, 91, 92
4	balsa	23 5/8 x 43/64 x 5/64	143
2	balsa	23 5/8 x 13/64 x 1/16	156
1	balsa	23 5/8 x 7/32 x 13/64	59, symm. conocally tapered
1	balsa	23 5/8 x 1/4 x 13/64	60, milled to shape
2	balsa	20 7/32 x 51/64 x 13/64	90, symm. conically tapered, pre-slotted
2	balsa	30 21/32 x 51/64 x 13/64	89, symm. conically tapered, pre-slotted

Amt.	Material	Dimensions in inches	Required for part(s)
4	balsa	31 1/2 x 13/32 x 9/32	149, 150, pre-shaped
4	balsa	31 1/2 x 2 49/64 x 1/16	144, 145, 148
1	balsa	23 5/8 x 1 25/32 x 5/32	76, symm. conically tapered, slotted for hinges
8	pine	39 3/8 x 13/64 x 1/8	125, 126
2	pine	39 3/8 x 13/64 x 5/64	6, 45, 46
1	beech dowel	7 7/8 x 13/64 Ø	55
1	beech dowel	3 15/16 x 5/32 Ø	56

The roughened out parts listed below are contained in the kit

Amt.	Designation	Material	Dimensions in inches	Required for part
1	fairing	balsa	2 49/64 x 3 35/64 x 31/64	27
1	fillet	balsa	1 31/32 x 23/32 x 43/64	31
1	fuselage nose	block balsa	1 37/64 x 1 37/64 sq.	33
2	tip	balsa	5 7/16 x 41/64 x 13/32	151
2	tip	balsa	3 5/16 x 33/64 x 13/32	74
1	rudder	balsa	7 7/8 x 3 25/32 x 5/32	57
1	fin	balsa	9 3/8 x 3 15/64 x 5/32	48

Subject to change serving technical progress!

Also required and contained in the kit:

1 tube UHU-hart or RUDOL-hart
1 bag GLUTOFIX paper glue, for application of the tissue paper covering
6 sheets JAPICO MODELSPAN tissue paper, .007 ozs. per sq. ft., order No. 524/3
1 polyamide ribbon, 8 x 19/32", for fastening the bracing wire at the wing trailing edge, ex No. 110/1
1 decal MOSQUITO
4 elastics, 1/4 x 1/16 x 2 3/8" diam., for attaching the wing, order No. 49/60

For the wing assembly

8 supports U2, plywood 51/64 x 19/32 x 3/64"
1 rib gauge W (providing 8° dihedral angle)