Assembly Instructions
"Bellanca Citabria"

N° 1341/00

Technical Specifications:

Wingspan	1,570 mm
Length	1,055 mm
Wing Surface Area	ca.36.27 dm^2
Tail Surface Area	6.22 dm^2
Total Surface Area	42.49 dm^2
Flying weight with 10 cells	1,950-2000 g
Total Surface Area Load	45.89-47.07 grams/dm^2
Wings Surface Area Load	ca.53.76 - 55.14 grams/dm^2

Propulsion:
" Johnson " electric motor with Gearbox - see table for options
Flight Nicad 10 Pack 1700 - 2400mAh cells
For propeller - see table

RC functions: -
Elevator
Aileron
Rudder
Electronic Speed Controller

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Electric flight today bears no resemblance to that of only a few years ago. Tremendous technological progress made kits such as our "Citabria" possible. We at Aero-Naut contributed mainly by the development of new, more effective e-props, and effective gearbox transmission units. By using these, standard, cheap electric "can" motors are able to carry relatively large models airborne, with a low enough current to allow prolonged flight.

When built carefully with precision, the Citabria has no vices in flight. Aileron control is provided, moreover it can be controlled via the rudder also.
Taking off from a hard runway, or even grass, is simple - begin your taxi run into the wind. Final approach and good landings are not a problem, since the landing approach is gentle. Simple aerobatics can be flown without difficulty - depending of course on the motor-gearbox-prop options installed.

Do you want more engine performance? If the answer is yes, then more expensive engines e.g. Mabuchi 540 VZ fit into the gear unit perfectly. The gearbox components are available as separate items to facilitate use of alternate motors.

The following table gives suitable engine/gearbox combinations and intended accessories for Citabria:

Motor/Gearbox Part.Nr.	Adapter Part.Nr.	Propeller Part.Nr.	Spinner Part.Nr.	Speed Controller Part.Nr.	Nicads Part.Nr.
Johnson-1.94:1 7120/11	7124/15	9.5x6" 7229/42 or	42mm 7253/40-42	30A without electro motive	10 cells 1.7 Ah to 2.4 Ah
Johnson-2,33:1 7120/12		9.5x7" 7229/45 or 10x6" 7229/48 or		force brake	capacity
Johnson-2,85:1 7120/13		10.5x6" 7229/57 or 10.5x7" 7229/60			

Since the motor mount and gearbox case (7120/92), gear wheel (7120/71-73) and ball races (7821/51 and 7822/50) are available separately, any electric motor with shaft diameter of 3.17 mm can be used. Modellers may use their own motor stocks for non-standard tuning according to their own discretion.

Please build it light, this is the rule of electric flight, and consistently follow our notes. Some parts may require a little preparation/sanding before installation as some processing is not always technically possible during manufacturing.

Adhesives: Some weight can be saved by use of appropriate adhesives. Use cyanoacrylate (superglue - here on referred to as "cyano") where possible, in thin or thick viscosity. The balsa can be pressed (laminated) together, or stuck point-for-point. A supply of humid or damp air (e.g. breathing air) accelerates the adhesion. **Caution**: Cyanoacrylate superglues are dangerous! DO NOT INHALE THE VAPOUR. Note the instructions on the packing! Keep off your skin as due to its moisture content skin sticks instantly to items covered with cyano.

Sanding: As the " Citabria " is built almost exclusively from wood, sanding is especially important. Level and smooth sanding blocks fitted with fresh sandpaper are a prerequisite for the successful building of Citabria. Modelling novices generally do not appreciate the benefits of sanding enough.
Two sandings are required with (280gritx50x20 and 230gritx25x20 mm). Please check that they are done absolutely level. Repeat again with fresh sandpaper if necessary. Stick cut strips of sandpaper with double sided tape (e.g. for servos/carpets to a sanding bar or flat piece of wood. Approx. 100 to 150 grit is fine first, following up with finer 240 or so grit.
Sand sections made from thin balsa wood gradually (e.g. part.74 - the 2-piece trailing edge) pressed down on the building board and allow for grain, sanding along the grain. More solid sections or assembled parts structures (vertical stabilizer fin) may be sanded freehand. A more exact finish is achieved from the sanding bar in almost all situations. With the sanding bar any small building inaccuracies present are removed by sanding to a smooth flat or evenly curved finish.
Sanding bars are avilable from all well stocked hobby shops; many types have self-adhesive paper strip of different grits. They have the advantage of a very sharp abrasive with a long life span; dust does not clog them. They sand quickly and evenly and are ideal for use with harder woods.

ABS parts: Many vac-formed ABS plastic parts are included in this kit. Here some tipsso they can be prepared faster and more exactly. Small, curved scissors are most useful. Cut out sections precisely, so that the markings out still

remain visible. Make final adjustment with a sharp file. Rub against the edges and moved back and forth parallel to the edge. This reduces "bending and wobbling" of the plastic parts being prepared, to achieve suitable problem-free edges to the parts.

Preparation for Building: Prepunched Balsa and plywood sheet parts are shown reduced in these instructions. Write the part numbers on the components with a soft pencil on the basis of these illustrations. Then separate the balsa parts with a scalpel from the prepunched sheet. The remainders are still partly used, so don't throw them away yet! Cut out the plywood sections. Sand, chamfer to fit, or prepare all component sections before installation in the model. Use a level (flat) building board for construction.
Deviations from the assembly sequence set out in these instructions can be made on own discretion, bet exercise care in this case!
Use building instructions for constant reference, together with building stage photo illustrations, parts list, plans showing engine with gearbox, servos, receiver, speed controller, and intended flight nicad packs.

Building: The building begins with the assembly of the fuselage side sections. On structural drawing 1 a reduced view of the fuselage box side sections is shown, with measurements. Begin with strips (1) and (2), to form the fuselage box section. Divide sheet (3) in accordance with plan, sand - ensure both sections match perfectly with the plan. Then fit (3) in between and glue. Glue rear cross rib (2) at right-angle. Remove from the building board.
Build the second side part exactly the same, you must ensure that both sections are absolutely identical (chamfering, distances). Round off the lower edge after plan.
Align ply support (4) and glue on (caution, you build a left and a right side - the face of both sections is still right-angled to the base - it is essential now to sand/chamfer (engine fall) for downthrust as per pan.
For the two-piece undercarraige mount (11) follow the plan and glue into the side parts. Stick two-piece engine frame (7+8), with the help of the 3 mm motor mount drillings and install the Mount with M3 screws and nuts. Stabilit express the nuts to (8). Drill fuselage frames (13) to (16) with 2 mm for the bowden cable, and with 3mm for the antenna bore. Make 2 mm drillings in frame (10) - here the hooks are made (from Part.100), used and stuck with Stabilit express.
Beginning of the assembly is shown in Fig. 1. Attach frames (9) and (10) right-angled to the side part with cyano. Shift engine frame (7+8) about ca.4-4.5 mm to the rear. Align the left side part, in every detail and stick together. The side parts are to be parallel to each other (from above and laterally), frames right-angled, engine frame assembled with inserted downthrust and sidethrust. Now the gluing of engine frame side parts should be reinforced with a triangular gusset (37).
It is best to ensure now for the attachment of main landing gear (28).Centrally align chassis on the fuselage (leave side parts accordingly blank), mark the position of the 4 screws. Drill accurately in the chassis - continue to use it as a drilling template. Fasten the chassis with M3 nuts and screws and stick these together in the fuselage interior with undercarraigemount (11) with Stabilit express. Remove (28) again.
The flight nicad support is madefrom hard balsa strips (12). The exact position of plywood nicad barrier (71) depends upon the number of cells installed so trial fit before final gluing. Insert (71) dearer further in front. It is supported with approx. 15 mm of (12) from the front (fuselage side view). The position of fuselage frame (13) is given by the cross rib (12). The distances of frames (14) to (16) amount in each case to 115 mm, rear side to the front of the frames measured (allow for the 3 mm frame thickness between them!). During work on frames attention is to be paid strictly to fuselage symmetry! They must be inserted right-angled to upper strip (2).
The position of frame (17) is provided on the plan with measurements. Likewise use frame (17) right-angled to form a base for the vertical stabilizer! Finish the vertical side parts from the inside - the gap from the inside should be 8 mm wide. Now servo mount (26) can be glued into the fuselage, reinforce with strips (12).
Double both side parts in the lower area on the outside with strips (5), afterwards the side skin (6) are made and glued on after the plan. When sticking (5) and (6) onto the side thick cyano, or gel cyano is used. Align stabiliser support (36) carefully (central, symmetrical) on the frames (16) and (17). The support (36) must run parallel to the upper edge of (2). If the position is correct, the gluing is reinforced with three pieces of (37) (see fig. 3).
The position of the fin mounting plate (43) can be determined carefully by trial fitting assembled vertical stabilizer.
Sand down side parts in the area of the motor frames - chamfer again evenly fairing to the reinforcements (4).
Insert half frames (21), (22) and strip (23).
Skin (24) - length approx. 140 mm - wil be joined at the edge and stuck together and fitted to side parts (6) - (see cross sections A-A, B-B). Resand the edge before sticking in place, so that the gluing makes a gap free fit. This should be done after prior dampening of (24). With a paper tissue dampen repeatedly, allow the water time to penetrate into the balsa. It can take up to 10 min. before (24) is correctly flexible. White glue is now laid on onto the frames with a strip. Clamp the skin in place with 6x6 mm auxiliary strips, bending (24) slightly, hold down with pins. Cut away protruding remainder from (24). Press down auxiliary strip again and fix with pins. Leave to dry thoroughly. Next the second half of the skin is treated the same. Skin (24) must be cut and shaped in such a way, that after bending, the edge at the fuselage centerline is square and no gaps develop. Use epoxy. Pin in place, leave to dry thoroughly!
The windscreen and wingseat area supports are from six hardwood pine strips (29). Framework (34) with reinforcing (35) serves as aid for exact alignment. The length of the respective strips (29) is taken from the plan, with an addition of approx. 2 mm. After verification from the plan, and sanding, glue the front pair of (29) to frame (9) and then the rear pair glue to frame (13). Once (29) are firmly in place according to plan install plywood wing supports (32).
Here the wing incidence angle (EWD on plan) of your model is inserted, ensure exactness of measure. The EWD is +0.5°- 1.0° (measured against the lower edge of the wing), and therefore this value also applies to wing support (32).

The stabiliser support (36) is inserted next and viewing carefully from the front against (32) is necessary to ensure it is absolutely horizontal.
Both to (32) are behind the rear pair of strips (29) 3 mm upper - here half frame (30) is used. Now stick everything together well with thin cyano. Now, with the help of framework (34), the position of the middle pair of strips (29) can be determined and these be inserted. Use half frame (31), glue.
Shift fuselage side strip (25) after plan. Cross sections D-D and E-E show how these areas with strips (25) and fuselage side strip (70) are to be done. Now fit in fuselage side (33), (cross section F-F).
In the fuselage plan view is drawn in, trim/sand to fit fuselage side strip (25) in the RC servotray area. Now strips (5) at the fuselage can be chamfered with a small plane (see cuts C-C, D-D and E-E). The front fuselage area is next - with the preparation of the motor cowling.
The rear upper fuselage strips consist of (39) and (27). Use (39) sparingly to fill. It is in front on position (32) and fuselage side (33) and should be inserted into the whole long one, according to cross section F-F, rear spar.
Before installation of (27) the upper edge of (39) must be sanded horizontally even with small sanding bar. Sand outer edge, (27), according to cut F-F to rear spar is sanded. For the location of mounting plate (43) the vertical stabilizer is needed.
Attach on the stabiliser support (36) one of (18), thickness 8 mm (= " back-up " for the fairing) and set the vertical stabilizer (with mounting plate (43) on the fuselage, put in front.
Before the stabiliser support (36) is connected with the structure of fuselage by skin (38), the bowden cable is for the rudder and elevator steering (55) and the guide of antenna (91) in turn. The accurate determination of the position of the servos is done by inserting steel wire (56) to show place of best fit = least control cable friction. Now the lateral skins of (38) must be sanded (grain!) and be provided with recesses for exits of the Bowden cables (55).
Before glueing (38) formstrip (27) and (39) at frame (16) must be left blank (fig. 8). according to the cut rear spar. The fuselage surface forms one level up to frame (13) - a base for the final incidence angle adjustment. It is of advantage to dedicate itself now to the building the wing which is described in these instructions in the next section. We assume for this that your wing is already finished.
The wing mount (72) has two markings, for 5mm drillings. Caution! Compare (72) with fuselage side view. The distance of the drillings to the upper edge is smaller so insert the right way up! Trial fit (72), sand (72) for exact fit and glue. Subsequently, reinforce the internal location of (72) and (32) with strips (12) - see in addition fuselage side view and cut C-C. Mount the wing, align in every detail at the fuselage centrally in the back, protect with pins.
The wing fixed on the fuselage, drill horizontally with 5mm diam via the drillings already bored in the wingmount (72) and main spar (93). Dowel pegs (96) fit and install dry only, do not glue yet.
Replace wing again on the fuselage, protect hohenflosse on it with pins. Hour of truth arrived - the wing incidence angle EWD is set. Fine tune all, in the places the 4 mm drillings marked by the lining to be made for fixing bolts M5.
Check these laterally, right-angled to the wing top side (i.e. fuselage side view).
Remove the wing, vergrbssern the 4 to 5 mm drillings. The peg dowels must now be glued and the lower skin be erganzt. With a bolt or tap, tap M5 thread into the 4 mm drillings, next reinforce the thread, run in thin cyano to fix new thread, leave. When cyano is hard, re-cut threads again.
So that the sharp-edged fuselage cross-section gets the correct shape, the wing support (32) are sheeted zusatziich with 1.5 mm balsa. Use cyano thick or cyano gel here. Cross section cuts C-C to E-E show, how this is is to be done.
Windshield (69) is provided with markings on the inside. Fig. 7 and fuselage side view shows how the upper recess is to be prepared. Sand the lower edge of (69) to fit the roundness of the fuselage perfectly. Leave the overlapping with (32) blank so that windshield (69) can be easily bonded into the fuselage. Align carefully on the fuselage, stick with thin cyano.
Install the wing at the fuselage. The lining (88) is to form a continuation for the windshield, i.e. remain in front even.
Stick on the trailing edge a remainder of (27) chamfer, for the (88) sand to fit. Align these centrally in every detail, and stick with thin cyano.
Refer now to fig. 9. The termination of the formed fuselage is made by a remainder of the 3 mm plywood. Then prepare the " V'-form (sand accordingly!), attach with thick cyano to the fuselage, so that the upper part can be chamfered to fit/meet up with the lining (88).
Use strips (27) - they push to the frame (16) in the back. Glue air outlet (41) into (40), afterwards let in between strips (27). Erganzt becomes this area by two cuts from (38) - see fig. 9.
The assembly of the control surfaces does not need special comment. A tip: on the shaping: attach rudders to the control units with pins so shaping accurately and comfortably with planes and a sand bar.
The vertical stabilizer carefully align, build into the fuselage. The elevator will be inserted into the slot between (36) and (18) (yet to insert!).
The transition fairing (44) is from the inside partly marked, which is gradually reduced to fit. Small, sharp shears are a must for this. Make fairing (44) fit into the structure of the fuselage in such a way, that the ABS plastic fits to the structure of wood smoothly.
Refer to figs. 8 and 10. Now the fairing is ready to be inserted. The fairing (44) is left blank for the ledge and the two " tongues " must to be processed. Now insert the fairing, which aligns and sticks with thin cyano (44). Fill as required with polyester putty, so that the covering can be attached smoothly.
Next sheet the fuselage. Half frames (45) and (46) let with strip (23). Skin (24) is attached in two steps, long min. 90 mm. The procedure was already described. Is the skin drying, which sand skil level (continuation fuselage sides), glue on sheet (47). Then plane off the protruding balsa of (47) fairing it in.
Prepare the rear part of hood (64) next. It serves as guide, or template during the shaping of the fuselage nose (see fig. 14). Since the main landing gear is not yet installed, is here handling with the sanding bar. Carefully prepare cover (49) and lateral linings (54L) and (54R).

Aligned next to each other, these three sections form a unit, without protruding rear edges, outside flush. They attach to the wood structure of the fuselage. Drill half frame (50) in the marked places with 3 mm bore, fix it to frame (13) and make the 3 mm drillings in frame (13).
Bond two 3 mm dowels into (50).
Bond half frames (48) and (50), into (49), those (50) are still laterally hold.
The (49) must fit for skin (24). Align position of the (49) centrally with the help of the lateral linings. Pin of the interlock against the termination of the fuselage drOcken (= mark) and bore this place 3 mm.
The assembly of the chassis is already prepared, M3 nuts & washers bonded in the fuselage. Only the front and rear edge of the chassis oval must be sanded and 4 mm drillings for the wheel axles be made. Now paint the chassis already with its final sealing coat.
Firmly tighten chassis with M3x15 mm screws, put and lock the cover (49). The lateral linings (54L) and (54R) at the outside part (= fuselage sides) with approx. 3 of mm broad of Balsa 1.5 mm provide and evenly regrind (cut of D-D). Within the area, where the " V'-bracing of the wing is to be fastened (see fuselage side view) must the linings with Abachi, lime tree or 3 mm plywood). Before sticking together provided with fuselage plentifully glue these with Stabilit Express, push the lining on the fuselage and stick together with thin cyano.
Drill out spur baseplate (19) (with 2.5 mm) according to markings which spur (20) einf~deln, fasten by means of M2,5x8 mm of screws, washers and nuts. The tail landing gear (68) with a cut of brass tubing 3/2 mm bush setting and protect by two washers soiled on the spur.
It uses and check the disk into the fuselage surface whether the wheel will run centrally. If necessary loosen the attachment, readjust and then the spur with washers with Stabilit express.
Fig. 13 shows the two-piece hood (64) and (65) already prepared. Carefully adapt the length of (65) so that both sections sit bonded one on the other. Fix with tape, tack together with small brush and dope/laquer. From internal page with Stabilit express stick together. File the edge as required and finish by filling with polyester putty.
Drive unit with crank, however install without propeller, place and align cowling.
In these places the rear edge of the hood on the fuselage upper stretchers. Remove hood, let in the (63), sand. Fig. 16 and 17 show the situation.
Carefully prepare Wheel winings (66) those must sit gap-free. With tape, align, tack together into the interface by running in sealer/dope, leave. The recess for the wheel in approximately mark, with a drill 2 mm make series of drillings approximately around the part and leave. Drill 4 mm for the wheel axle, and approx. 6 mm for the screw head, see cut K-K. The recess for the wheel do over again and size accordingly. A medium-large semicircular file is handy for this. Use for it a part of the curved wire.
Since the assembly of the wheel with linings is not an all too-easy play, we suggest you make the lacquer finish of the linings now. The cut K-K illustrates the situation.
Insert the wheel into the lining, put the M 3.5 screw in from the outside, unscrew nut step for step. The screw looks approx. 3 mm from the nut, insert a washer with fine tweezers. With that, into which socket-head cap screw put in SchlOssel the end of the screw checkinto the drilling 045 mm in the lining eindrOcken and whether the wheel in the recess can move freely. This is not the case, either the recess makes somewhat broader or the second washer delays and again verify. The nut is screwed on the screw just so far that the wheel can turn still freely. When the screw looks far enough from the lining, it can become secured with a washer and a nut put into the chassis. Check whether the wheel on the axle rotates freely. If necessary loosen the outside nut & washer somewhat and adjust the other one, in the lining, which determines the axial play of the wheels.

The Wings
Building of the wing halves takes place directly over the structural drawing on the flat building board. In, direction span is the main spar with its cut for the ribs determining, the wing depth may you heedlessly from the plan, upper-takes to
The kit has 8 sheets skins (74). For the skin of the trailing edge (4 parts) somewhat harder wood is better suited. You must next sand these 4 parts precisely (trailing edge). Mark the width of the strip which can be sanded (approx. 9 mm) with soft pencil, on the edge of the building board and with a broad sanding bar (grit 100-150) sand the grain smooth.
the main spar (73) must be erg~nzt still around the cuts for the ~ussersten ribs (76) or (79) those measurements from the structural drawing .
Skins (75) according to structural drawing sand adaption two upper (75) for the aileron strips (2) and (87) 8 mm leave blank, however not in 1 full length! The (74) are something oversize in length. Attach it on the structural drawing in such a way that them are on both pages somewhat. For determining the position of (75) the main spar (its cuts) can stick used only then the (74) and (75), the ~ussere overwing with advantage (impact edge (74) and (75) evenly regrind-
regrinding that lower pair of (75) for the aileron strips only 7 mm broad leaving blank the response gives you the cut C-C (the slot of 7 mm by a millimeter into the (74) on 8 mm one extends).
For the attachment of " V'-props is purpose-alienated from 4 fittings made now, cut C-C illustrates, is finished it, on the rib (78) to put, drillings 2 mm distinguished and again from the rib removing thereby is the preparations for the structure attach structural drawing on an level building board, one the (74) as a document. It is placed in such a way on the structural drawing that the main spar covers the drawing and the lower skin is used to align the finished spar on the plan. To align that the sanding/chamfer of (75) with in the plan upperjoints. For determining the position of the main spar will be rib- (77), which is to sit in one of the corners of (75). Put rib into corresponding cut in the spar, spar the long one align after, fix spar to the building board. Place all ribs into the cross-beam (do not stick!), align exactly right-angled and stick each rib with 2-3 drops thin cyano to the final skin (ribs glued against the (74) and (75)).

Only now the point can be determined, where the (74) sand to the wing tip edge run out. Cut off, sand-chamfer regrind the trailing edge. To the ribs carefully attach the strip (80) in front, stick with thin cyano.
Put upper (39) into the ribs, align and stick. Only now attach into the cross-beam put the ribs with thin cyano.
likewise the rib sections (90) fit, bond the triangular strip in (81) according to wing plan view. Now the structure can far away from the building board, which are stuck after - ribs in the main spar with white glue.
Fit front skin (74) to false leasing edge (80) easily, sand/cut according to the drawing, so that the (74) can be glued on cleanly. Important! The plan shows that (74) the false spar (39) only partial overlaps at the last rib cut (77) bend the (74) easily and upward, into the rib (79). The same applies for the final skin (74+75). Cut F-F shows the situation, the wing has a geometrical washout.
The skin from down by Pos.(38) sees to fig.
The installation of the aileron servos in the plan shows a servo cover part (97).
Check fig. 19 and 23 carefully. Here it is evident that the last Gune (85) will only montien after the fixing of the wing halves and applying the remaining skins (38).
Insert framework (82) for the servo assembly, after cut C-C. How your servos are to fasten depends on type of servo used. In the plan are drawn in flat servos, which can be installed with appropriate mounting plates into the strips (83). Angefenigten the already fit for the " V"- insert struts after plan, reinforce the plywood rib (78) within these areas with thin cyano.
Resand strip (80) from above according to the profile outline.
The wing gets a good dose of geometrical washout. Veriegen on the building board an auxiliary strip 6x6 mm, which flatten within the area of the strip (39) on it, protect with film. lm plan is gestricheit drawn in sand/chamfer, how a second strip is to be inserted, 5x8 mm (high sharp-edged) under the wing. If you ensure dafor, dent the wing fully rests upon both strips - thus the washout twisting is inserted. By gluing on the skin (74) this geometry is fixed into the wing. The (74) grundlich, with the help of the helping theyists festdrocken, particularly within the area of the strips (39) and (80)! Leave to dry completely. The wing remains still fastened on the strips, which section skins of (38) and belts (85) installed. Remove only then the structure from the building board. Sand the face of the wing evenly, so that the ledge (86) can be glued to. The roundness of the ledge (above) must form a smooth continuation of the profile outline!
With a sanding bar (grit 100-150) chamfer both final ribs evenly - in the wing middle take care of the " V'-form to. The wing tip (84) is glued on, sanded with a balsa plane and the whole wing, still in one piece, sanded cleanly. Result shown in fig. 20.
Cut out ailerons with a fretsaw (preferably one with fine metal teeth), sand remainders of ribs. Reinforce each corner with triangular strip (37). Insert new wing trailing edge (2) and aileron leading edge which is made from trailing edge (87), sand excess away. Fasten servo with long cable. Connect the aileron with a piece steel wire (56), that is soiled into the yoke see cut D-D. Place the round rudder control horn onto a hard flat surface, and roll them with a file on top, to score and roughen the gluing part before installation. Fasten aileron provisionally with tape and drill 3 mm for the control horn (89) in the aileron. It is good to let 2-3 drops thin cyano run into the drilling. Re-drill after hardening.
Fig. 23 shows, how the wing half is connected. Take from each rib (76) in front, between the strips (39) 3mm as space for the wing spar reinforcing (93) see cross section cut A-A.) Trim both ribs (76) with a fretsaw up to the upper skin for accommodation of links (72), with a sharp blade fine tuning the slots. Both (72) must fit easily. Stick with white glue on the main spar, align exactly centrally, with clothes pegs, glue.
Put the second half wing on the plan, provide whole rib (76) to skin with adhesive. Carefully glue, hold with clothes pegs. Tape the center from above and down. Check the dihedral " V"-form, possibly readjust. Now the spar reinforcing (93), can be fit in into the rib sections (94). in interaction with the fuselage The continuation of the structure depends with the fuselage together. The " V"-shaped wing strut is drawn in on the plan. Prepare the profile wing strut (98) (allow a little oversize!) divide, after drawing in the fuselage plan do, with a saw or file make a horizontal slot for (99). Roughen up the aluminum sheet metal with sandpaper, degrease and bond with stabilit express. Align angle in every detail after plan! This place adjust/to fit after plan. the insert of the hooks (100) is recommended only with the fenig covered, at the fuselage montienen cordially flattens! Now bend the latch (99) the fuselage and in reinforcing fix the space intended with a screw 2.2 x 13 mm. Produce hook, which on the props mark position of the drilling exactly and into which slide brass tubing. Bore strut blank with a 2 mm drill for the wire, leave. Now wing geometry (washout and dihedral " V"-form) must be checked by a view from the rear. Modifications are easiest by remachining of the drillings in the struts. If all is o.k., tie the hooks with a linen thread and stick with thin cyano. So that the struts in the wing remain in place, insert another cross connector e.g. of 0.8 mm steel wire, to both struts (parallel to the flight direction). The struts are to be able to be pushed on to the wing for transport. Bend the hooks easily upward.

RC installation:
For this we want to make two points.
The flight nicad has its link at the speed controller controller in the rear. Since the speed controller represents a connection of nicad with engine, the nicad should however be accommodated between frames (9) and (10). The engine longer of the cables decides it! -Measure the cables of the aileron servos to be put in assembly of the model to the receiver, these should be well accommodated in the fuselage. We assume the radio control allows for differentiation of the aileron movements!
A tip to covering the model with heat-shrink film: So that the film sticks well to the ABS sections, these are pre-treated with appropriate liquid heat activated glue, eg Balsaloc. Ensure that with the covering of the fuselage the covering material is cut suitably oversize. For trimming film a sharp blade or scalpel is a must. Look also at the fuselage cross-section cuts and commit yourselves to a planned covering sequence. The suggested color design is

reasonable easy to do with shrink film. There are also on the market trimline colored adhesive finishing films. This facilitates the job substantially. For cockpit glazing it is best to use reflective eg chrome film, or mid-grey. Only the cowling and wheel spats need to be painted.
Rudder hinges are to be attached only to the built and covered model from tape. Rudders with 2-3 thicknesses tape protect, tilt thems around the axis of rotation, to ensure free movement and the " V'-shaped gap. Bond 2-3, approx. 40-50 long of tape Into the gap, overlay with another layer of tape. Move rudders to neutral, remove auxiliary strip. The tape is stuck from above full rudder-length. Stick that rudder on properly! Without installed elevator the " V'-gap can become much far opened!

The testflying
The emphasis must into that, on which are appropriate for plan-indicated bordering, the wing incidence angle (EWD) likewise.
A symmetrically built, distortion-free aircraft is a pleasure to fly.
Control surface throw measurements:

Aileron	+	approx. 12-15 mm	-	approx. 6-8 mm
Elevator	+/-	10-12 mm		
Rudder		as much as possible		

Verify radio range both without and with running motor. This is vital. Just as important is to protect the flight nicad pack against inadvertent movement during flight. Most simply this protection can be achieved, by putting a part of the rubber band around the corner of the nicads. Thus it is held forward.
Rise off ground takeoffs (or well cut grass runway) are problem-free, assuming one start takeoff roll into the wind. Once the taxi heading is held with the rudder, the model takes off easily. Easily rising take up travel, rise only then to the Arbeitsh6he. Hand launches with the Citabria are an even safer way to ge airborne! If a lighter head wind prevails, one can hand launch " into air ". Once in air, the optical impression is one of a very scale airspeed.
The prototype was flown with Johnson 6421 7.2V electrical motor and 2.33:1 gearbox (no. 7120/12), with a. 10.5x6" prop and " the cruising speed " went approx. 5000 U / min., i.e. approx. 70 Watts. Citabria can (with 1.7Ah nicads cycled 3-4 times) give a 10 to 15 min. flight duration subject to flight style (with thermal influence longer flights are available).
Figures such as looping and turn can be flown well. Rudder travel if enough are large, can be also adjusted. Minimum speed owing to the profile and inserted washout is extremely low, without stalling tendency. Thus extremely slow landings are simple, also in the relatively high grass. Into near-surface ones flare the model with elevator, it puts from alone.
We wish you many satisfying flights with the Citabria and good landings!

Aero Naut Modellbau

Parts List Bellanca " Citabria ", part number. 1341/00

Pos.	Designation	pcs.	Material	dimension in mm
1	Strip	2	Balsa	4x20mm; n.Z.
2	Balsa	3	Balsa	4x12 mm; n.Z.
3	sheet	2	Balsa	4 mm; n.Z.
4	Reinforcing	2	plywood	3 mm; Ready cut
5	Strip	2	Balsa	6x29 mm; n.Z.
6	sheet	2	Balsa	6 mm; n.Z.
7	engine frame 1	1	plywood	3 mm; Ready cut
8	engine frame 2.	1	plywood	3 mm; Ready cut
9	Fuselage Frame	1	plywood	3 mm; Ready cut
10	Fuselage Frame	1	plywood	3 mm; Ready cut
11	Undercarraigemount	2	plywood	5xl 5x97 mm of
12	Strip	4	Balsa	6x6 mm; n.Z.
13-17	Fuselage Frame	1	plywood	3 mm; Ready cut
18	Strip	2	Balsa	8xl 2 mm; n.Z.
19	spur baseplate	1	plywood	3 mm; Ready cut
20	spur	1	Steel Wire	finished unit
21-22	half frame	1	plywood	3 mm; Ready cut
23	Strip	1	Balsa	5x7 mm; n.Z.
24	skin	1	Balsa	3x80 mm; n.Z.
25	fuselage side strip	4	Balsa	4x6 mm; n.Z.
26	Servomount	1	plywood	3 mm; Ready cut
27	Strip	2	Balsa	3x8 mm; n.Z.
28	main landing gear	1	GRP	finished unit
29	Strip	2	Pine	5x5 mm; n.Z.
30	half frame	1	plywood	3 mm; Ready cut

31	half frame	1	plywood	3 mm; Stanzteit
32	Wing support	2	plywood	3 mm; Ready cut
33	Fuselage side	2	plywood	3 mm; Ready cut
34	frameworks	1	plywood	3 mm; Ready cut
35	Reinforcing	2	plywood	3 mm; Ready cut
36	Stabiliser support	1	plywood	3 mm; ready cut
37	triangular Strip	1	Balsa	10x10 mm; n.Z.
38	skin	2	Balsa	1.5 mm; n.Z.
39	Strip	6	Balsa	3x5 mm; n.Z.
40	reinforcement	1	plywood	3 mm; Ready cut
41	air outlet	1	ABS plastic	finished unit
42	Strip	2	Balsa	5x8 mm; n.Z.
43	mounting plate	1	plywood	3 mm; Ready cut
44	fairing	1	ABS plastic	finished unit
45	half frame	1	plywood	3 mm; Ready cut
46	half frame	1	plywood	3 mm; Ready cut
47	sheet	1	Balsa	6 mm; n.Z.
48	half frame	1	plywood	3 mm; Ready cut
49	cover	1	ABS plastic	finished unit in such a way
50	Reinforcing	1	Plywood	3 mm; Ready cut
51	corner	2	plywood	3 mm; Ready cut
52	round bar	1	beech	3 mm diam; n.Z.
53	interlock	1	brass / steel	finished unit
54	lining 54L+54R	1+1	ABS plastic	finished unit
55	bowden cable interior pipe	2	plastic	n.Z.
56	Steel wire	1	steel	8 mm diam.; n.Z.
57	Adjustable Servo Top	2	brass	finished unit
58	threaded bush	M2 / D-0,8 mm 3 s		steel finished unit
59	Gabelkopf	5	steel	finished unit
60	rudder horn	2	record plastic	finished unit of
61	Rudder	1	Balsa	230x80 / 40x8 mm
62	sheet	1	Balsa	8 mm; n.Z.
63	application	4	plywood	3 mm; Ready cut
64	Cowling 1	1	ABS plastic	finished unit
65	Cowling 2	1	ABS plastic	finished unit
66	wheel lining L+R	2	ABS plastic	finished unit
67	air wheel 60 mm	2	plastic	finished unit
68	air wheel 35 mm	1	plastic	finished unit
69	windshield	1	ABS plastic	finished unit
70	fuselage side strip	1	Balsa	5x10 mm; n.Z.
71	Nicad Barrier	2	plywood	3 mm; Ready cut
72	Wing mount	1	plywood	3 mm; Ready cut
73	main spar	2	Balsa	782x24x5 mm
74	skin 1.	8	Balsa	800x48xl.5 mm
75	skin 2.	4	Balsa	525x30x1.5 mm
76	rib	2	Balsa	2 mm; Ready cut
77	rib	26	Balsa	2 mm; Ready cut
78	rib	2	plywood	3 mm; Ready cut
79	rib	2	Balsa	2 mm; Ready cut
80	Strip	2	Balsa	9x3 mm; n.Z.
81	end rail	1	Balsa	8x30 mm; n.Z.
82	frameworks	2	plywood	1.5 mm; Ready cut
83	Strip	1	lime tree	6x6 mm; n.Z.
84	wing tip	2	Balsa	205x25x20 mm
85	belt	6	Balsa	2x5 mm; n.Z.
86	ledge	2	Balsa	750x9x6 mm
87	trailing edge	2	Balsa	4x15 mm; n.Z.
88	lining	1	ABS plastic	finished unit
89	rudder horn	2	brass	finished unit
90	rib section	4	Balsa	2 mm; Ready cut
91	bowden cable external pipe	1	plastic	3.0/2.1mm; n.Z.
92	links	2	plywood	1.5 mm; Ready cut
93	Spar Reinforcing	1	plywood	3 mm; Ready cut
94	rib section	2	plywood	3 mm; Ready cut
95	Reinforcing	2	plywood	3 mm; Ready cut
96	round bar	2	beech	5 mm; n.Z.
97	servo cover	2	plywood	01.5 mm; Ready cut

98	Wing Struts	4	Abachi	5x10 mm; n.Z.
99	aluminum sheet metal	1	Duraluminum	1 mm; n.Z.
100	steel wire	1	iron, galvanizes	02 mm; n.Z.
101	Strip	1	Pine	5x8 mm; n.Z.
102	Elevator	2	Balsa	250x60135x8 mm

Other necessary- without Part. No.:

screw	8	brass	M 2x12 mm of
screw	2	brass	M 2x25 mm of
nut	11	brass	M 2
stop nut	2	steel plastic.	M 2
screw	2	brass	M 2,5x8 mm of
washer	2	brass	02,817,OxO,5 mm of
nut	2	brass	M 2.5 s
screw		steel	M 3x15 mm of
washer	4	brass	03,217,OxO,5 mm of
nut	4	brass	M 3
lmbus screw	2	steel	M 4 x 35 mm of
washer	6	brass	04.31 09, OxO, 8 mm of
nut	2	steel	M 4
nylon screw	2	plastic	M 5X50 mm of
tapping screw	4	steel	02,2x6,5 mm of
tapping screw	2	steel	02,2x13 mm
hinge strip, clear	1	plastic	do not contain
Brass biech	1	brass	8xO, of 5 mm of
Brass Tube	1	brass	02.1103 mm
aluminum sheet metal	1	aluminum	30x30xl mm
rubber band	2	rubber	1x5x025 mm g

n.Z. = after drawing. Appropriate mass are the structural drawing to infer or the model. L=Length
For the building of the model are benbtigt the still following articles, which are not contained in the component system,:

Ponal express part number.	7638/09
UHU hard	7631/02
Stabilit express	7646/01
Pattex Sekundenkleber	7639/21
Pattex Sekundenkleber gel	7639/25
Aerofix Porenfuller	7666/02
aero Spanniack	7670/05
aero Verdonnung	7675/05