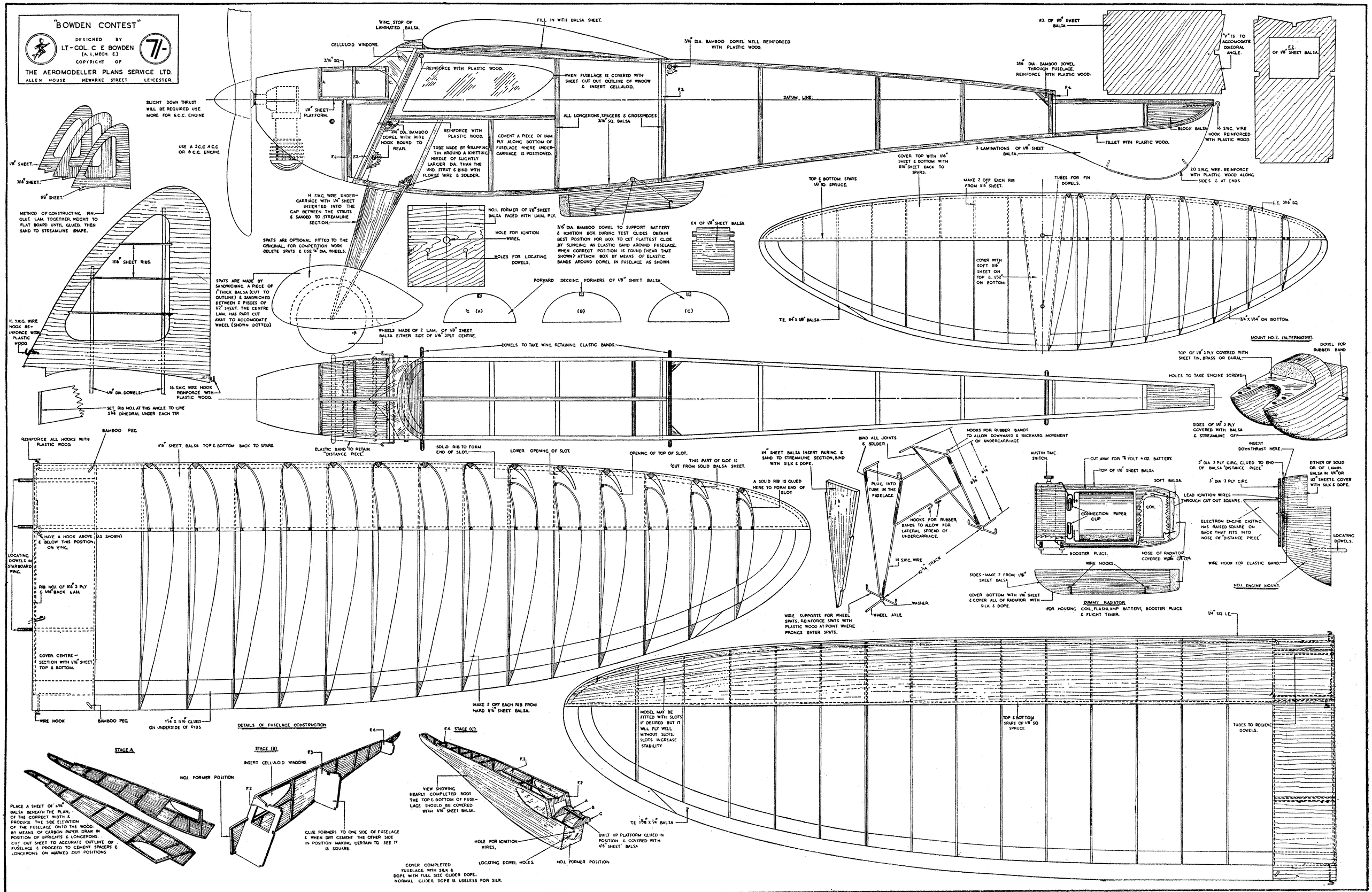
"BOWDEN CONTEST"
DESIGNED BY
LT.-COL. C E BOWDEN
(A. I. MECH. E.)
COPYRIGHT OF
THE AEROMODELLER PLANS SERVICE LTD.
ALLEN HOUSE NEWARKE STREET LEICESTER
7/-
WING STOP OF LAMINATED BALSA.
FILL IN WITH BALSA SHEET.
CELLULOID WINDOWS.
3/16" SQ.
REINFORCE WITH PLASTIC WOOD.
WHEN FUSELAGE IS COVERED WITH SHEET CUT OUT OUTLINE OF WINDOW & INSERT CELLULOID.
3/16" DIA. BAMBOO DOWEL WELL REINFORCED WITH PLASTIC WOOD.
3/16" DIA. BAMBOO DOWEL THROUGH FUSELAGE. REINFORCE WITH PLASTIC WOOD.
F3. OF 1/8" SHEET BALSA.
"V" IS TO ACCOMODATE DIHEDRAL ANGLE.
F2. OF 1/8" SHEET BALSA.
SLIGHT DOWN THRUST WILL BE REQUIRED USE MORE FOR 6 C.C. ENGINE
1/8" SHEET PLATFORM.
DATUM LINE.
ALL LONGERONS, SPACERS & CROSSPIECES 3/16" SQ. BALSA
3/16" DIA. BAMBOO DOWEL WITH WIRE HOOK BOUND TO REAR.
REINFORCE WITH PLASTIC WOOD.
CEMENT A PIECE OF 1MM. PLY ALONG BOTTOM OF FUSELAGE WHERE UNDERCARRIAGE IS POSITIONED.
TUBE MADE BY WRAPPING TIN AROUND A KNITTING NEEDLE OF SLIGHTLY LARGER DIA. THAN THE UND. STRUT & BIND WITH FLORIST WIRE & SOLDER.
USE A 3 C.C. 4 C.C. OR 6 C.C. ENGINE
BLOCK BALSA
16 S.W.G. WIRE HOOK REINFORCED WITH PLASTIC WOOD.
FILLET WITH PLASTIC WOOD.
3 LAMINATIONS OF 1/8" SHEET BALSA.
COVER TOP WITH 1/16" SHEET & BOTTOM WITH 1/16" SHEET BACK TO SPARS.
20 S.W.G. WIRE. REINFORCE WITH PLASTIC WOOD ALONG SIDES & AT ENDS
1/8" SHEET.
3/16" SHEET.
1/8" SHEET.
METHOD OF CONSTRUCTING FIN. GLUE LAM. TOGETHER, WEIGHT TO FLAT BOARD UNTIL GLUED. THEN SAND TO STREAMLINE SHAPE.
14 S.W.G. WIRE UNDER-CARRIAGE WITH 1/4" SHEET INSERTED INTO THE CAP BETWEEN THE STRUTS & SANDED TO STREAMLINE SECTION.
NO.1. FORMER OF 1/8" SHEET BALSA FACED WITH 1.MM. PLY.
HOLE FOR IGNITION WIRES.
HOLES FOR LOCATING DOWELS.
3/16" DIA. BAMBOO DOWEL TO SUPPORT BATTERY & IGNITION BOX. DURING TEST GLIDES OBTAIN BEST POSITION FOR BOX TO GET FLATTEST GLIDE BY SLINGING AN ELASTIC BAND AROUND FUSELAGE. WHEN CORRECT POSITION IS FOUND (NEAR THAT SHOWN) ATTACH BOX BY MEANS OF ELASTIC BANDS AROUND DOWEL IN FUSELAGE AS SHOWN
E4 OF 1/8" SHEET BALSA
TOP & BOTTOM SPARS 1/8" SQ. SPRUCE.
MAKE 2 OFF EACH RIB FROM 1/16" SHEET.
TUBES FOR FIN DOWELS.
L.E. 3/16" SQ.
1/16" SHEET RIBS.
SPATS ARE OPTIONAL. FITTED TO THE ORIGINAL FOR COMPETITION WORK. DELETE SPATS & USE 4" DIA. WHEELS.
SPATS ARE MADE BY SANDWICHING A PIECE OF 1" THICK BALSA (CUT TO OUTLINE) & SANDWICHED BETWEEN 2 PIECES OF 1/2" SHEET. THE CENTRE LAM. HAS PART CUT AWAY TO ACCOMODATE WHEEL (SHOWN DOTTED)
FORWARD DECKING FORMERS OF 1/8" SHEET BALSA
(A)
(B)
(C)
COVER WITH SOFT 1/16" SHEET ON TOP & 1/32" ON BOTTOM.
T.E. 1/4" x 1/8" BALSA.
3/4" x 1/64" ON BOTTOM.
16 S.W.G. WIRE HOOK RE-INFORCE WITH PLASTIC WOOD.
1/8" DIA. DOWELS.
16 S.W.G. WIRE HOOK REINFORCE WITH PLASTIC WOOD.
SET RIB NO.1 AT THIS ANGLE TO GIVE 5 1/4" DIHEDRAL UNDER EACH TIP.
WHEELS MADE OF 2 LAM. OF 1/8" SHEET BALSA EITHER SIDE OF 1/16" 3 PLY CENTRE.
DOWELS TO TAKE WING RETAINING ELASTIC BANDS.
MOUNT NO.2. (ALTERNATIVE)
DOWEL FOR RUBBER BAND
TOP OF 1/8" 3 PLY COVERED WITH SHEET TIN, BRASS OR DURAL.
HOLES TO TAKE ENGINE SCREWS.
SIDES OF 1/8" 3 PLY COVERED WITH BALSA & STREAMLINE OFF.
REINFORCE ALL HOOKS WITH PLASTIC WOOD.
BAMBOO PEG
1/16" SHEET BALSA TOP & BOTTOM BACK TO SPARS
ELASTIC BAND TO RETAIN "DISTANCE PIECE".
SOLID RIB TO FORM END OF SLOT.
LOWER OPENING OF SLOT.
OPENING OF TOP OF SLOT.
THIS PART OF SLOT IS CUT FROM SOLID BALSA SHEET.
1/4" SHEET BALSA INSERT FAIRING & SAND TO STREAMLINE SECTION, BIND WITH SILK & DOPE.
A SOLID RIB IS GLUED HERE TO FORM END OF SLOT
BIND ALL JOINTS & SOLDER.
HOOKS FOR RUBBER BANDS TO ALLOW DOWNWARD & BACKWARD MOVEMENT OF UNDERCARRIAGE
PLUG INTO TUBE IN THE FUSELAGE.
HOOKS FOR RUBBER BANDS TO ALLOW FOR LATERAL SPREAD OF UNDERCARRIAGE.
14 S.W.G. WIRE
TO 1/4 TRACK
WASHER
WHEEL AXLE
WIRE SUPPORTS FOR WHEEL SPATS. REINFORCE SPATS WITH PLASTIC WOOD AT POINT WHERE PRONGS ENTER SPATS.
AUSTIN TIME SWITCH.
CUT AWAY FOR 2 VOLT 4 OZ. BATTERY.
TOP OF 1/8" SHEET BALSA
SOFT BALSA.
COIL
CONNECTION PAPER CLIP
BOOSTER PLUGS.
NOSE OF RADIATOR COVERED WITH CELLULOID
WIRE HOOKS.
SIDES - MAKE 2 FROM 1/8" SHEET BALSA
COVER BOTTOM WITH 1/8" SHEET & COVER ALL OF RADIATOR WITH SILK & DOPE
DUMMY RADIATOR
FOR HOUSING COIL, FLASHLAMP BATTERY, BOOSTER PLUGS & FLIGHT TIMER.
INSERT DOWNTHRUST HERE.
3" DIA. 3 PLY CIRC. GLUED TO END OF BALSA "DISTANCE PIECE"
3" DIA. 3 PLY CIRC
EITHER OF SOLID OR OF LAMIN. BALSA IN 1/4" OR 1/2" SHEETS. COVER WITH SILK & DOPE.
LEAD IGNITION WIRES THROUGH CUT OUT SQUARE.
ELECTRON ENGINE CASTING HAS RAISED SQUARE ON BACK THAT FITS INTO NOSE OF "DISTANCE PIECE"
LOCATING DOWELS.
WIRE HOOK FOR ELASTIC BAND.
NO.1. ENGINE MOUNT.
LOCATING DOWELS IN STARBOARD WING.
RIB NO.1 OF 1/16" 3 PLY & 1/16" BACK LAM.
HAVE A HOOK ABOVE (AS SHOWN) & BELOW THE POSITION ON WING.
COVER CENTRE SECTION WITH 1/16" SHEET TOP & BOTTOM.
WIRE HOOK
BAMBOO PEG
1/4" x 1/16" GLUED ON UNDERSIDE OF RIBS
DETAILS OF FUSELAGE CONSTRUCTION
MAKE 2 OFF EACH RIB FROM HARD 1/16" SHEET BALSA.
MODEL MAY BE FITTED WITH SLOTS IF DESIRED BUT IT WILL FLY WELL WITHOUT SLOTS. SLOTS INCREASE STABILITY
TOP & BOTTOM SPARS OF 1/8" SQ SPRUCE
TUBES TO RECIEVE DOWELS.
1/4" SQ. L.E.
STAGE A
PLACE A SHEET OF 1/16" BALSA BENEATH THE PLAN, OF THE CORRECT WIDTH & PRODUCE THE SIDE ELEVATION OF THE FUSELAGE ONTO THE WOOD BY MEANS OF CARBON PAPER. DRAW IN POSITION OF UPRIGHTS & LONGERONS. CUT OUT SHEET TO ACCURATE OUTLINE OF FUSELAGE & PROCEED TO CEMENT SPACERS & LONGERONS ON MARKED OUT POSITIONS
STAGE (B)
INSERT CELLULOID WINDOWS
NO.1. FORMER POSITION
F4.
F3.
F2
CLUE FORMERS TO ONE SIDE OF FUSELAGE & WHEN DRY CEMENT THE OTHER SIDE IN POSITION MAKING CERTAIN TO SEE IT IS SQUARE.
F4. STAGE (C)
VIEW SHOWING NEARLY COMPLETED BODY THE TOP & BOTTOM OF FUSE-LAGE SHOULD BE COVERED WITH 1/16" SHEET BALSA.
HOLE FOR IGNITION WIRES.
LOCATING DOWEL HOLES.
NO.1. FORMER POSITION
BUILT UP PLATFORM GLUED IN POSITION & COVERED WITH 1/16" SHEET BALSA
T.E. 15/16" x 1/4" BALSA
COVER COMPLETED FUSELAGE WITH SILK & DOPE WITH FULL SIZE GLIDER DOPE. NORMAL GLIDER DOPE IS USELESS FOR SILK.