SMALL TRIANGULAR TIP FILLETS. SLICE APART ON INK LINE.

1/8" X 1/4" LEADING EDGE

SOFT BLOCK, CUT TO TRIANGULAR CROSS-SECTION AS SEEN IN SIDE VIEW.

PRE-KOREAN ARMY MARKINGS. BLACK NUMBERS ON SILVER WING.

# WING LAYOUT

# 01327

CEMENT THREAD TO COVERING TO SIMULATE SHEET METAL SPLICES. EXTEND THREAD TO AILERON OUTLINE ON LOWER CAMBER.

AILERON OUTLINE TOP CAMBER

AILERON OUTLINE BOTTOM CAMBER

FLAP OUTLINE TOP CAMBER
CEMENT THREAD AS INDICATED ON FLAP AT THE RIGHT.

FLAP OUTLINE BOTTOM CAMBER

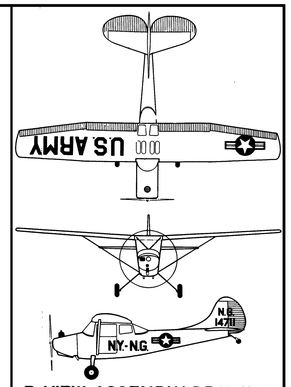
FLAP OUTLINE TOP CAMBER

CEMENT THREAD TO FLAPS AS INDICATED. EXTEND THREAD TO FLAP OUTLINE ON LOWER CAMBER

FLAP OUTLINE BOTTOM CAMBER

AILERON OUTLINE TOP CAMBER
CEMENT THREAD AS INDICATED ON AILERON AT LEFT

AILERON OUTLINE BOTTOM CAMBER




## 3 VIEW ASSEMBLY DRAWING:

IF RUBBER POWER IS USED, YOU MAY PREFER A FREE-WHEELING PROP TO THE FOLDER

CEMENT FILLET

PIANO WIRE UNDER LIGHT TENSION.

BUSHING

CEMENT FILLET

## FRONT VIEW

DIE-CUT CELLULOID WINDSHIELD

3/32" X 1/4" WING STRUTS

F-10, F-26 AND F-27 ARE NOT SHOWN TO AVOID CONFUSION IN THIS VIEW.

SCALE LANDING GEAR CLEARS UP TO 8" DIAMETER PROPS WITH EASE.

1-1/2" DIHEDRAL FOR FREE-FLIGHT.

13/16" DIHEDRAL FOR SCALE MODELS.(CONTROLINE)

LINE GUIDE

STOP TO ENGAGE SHAFT.

1/4" SHEET BALSA KEY

THE FOLDING

W-7.

CEMENT WELL

LINE GUIDE INSTALLATION FOR CONTROLINE VERSION ONLY.

BEND LOOP TO GUIDE LEADOUT

## WING CONSTRUCTION DETAIL:

WING CONSTRUCTION IS FAST AND SIMPLE. THE MAIN PANELS ARE BUILT FIRST, THEN JOINED BY W-14 AND W-15. THE WING TIPS AND CENTER SECTION ARE THEN COMPLETED.

W-16

NOTE SMALL TRIANGULAR WING TIP GUSSETS. THESE APPEAR AS DIE-CUT RECTANGLES, WITH INK DIAGONAL. SLICE APART.

WHEN LAYING PANEL OUT, OMIT RIB W-2 AND W-3 UNTIL AFTER THE PANEL IS REMOVED FROM PLAN.

1/16" X 3/16" SPAR MUST BE SHIMMED UP TO MEET RIB UNDERCAMBER.

TIP RIB MUST BE BLOCKED UP 3/16" TO MAINTAIN FLAT TOP SPAR.

SAND TIP SMOOTH

INSTALL W-14, W-15, W-1, W-2, W-3, W-13, W-16, W-19, W-20 W-21 AND W-22 AFTER REMOVAL FROM PLAN.

1/16" SHEET ON BOTH SURFACES

5/32 SQ. LEADING EDGE

PERFECT SCALE OUTLINE

NOTE ELEVATOR HINGE LINE RUNS ALONG S-7 TO LEADING EDGE. SEE THREE-VIEW.

FOR CONTROLINE CONVERSION, ADD 1/8" SHEET RIB AS INDICATED.

S-7 MOVES AS PART OF ELEVATOR

## STABILIZER

S-1 S-2 S-3 S-4 S-5 S-6 S-7 S-9 S-10

WRAP AROUND CROSSBAR

BIND HORN TO CROSSBAR

CEMENT THREAD TO ELEVATORS AS INDICATED, ON BOTH UPPER AND LOWER CAMBER, TO SIMULATE JOINTS IN SHEET METAL COVERING.

BOTH SIDES OF ELEVATOR ARE HINGED FOR CONTROLINE VERSION.

CEMENT THREAD TO ELEVATORS (TOP AND BOTTOM) AS INDICATED, ON LEFT SIDE OF ELEVATOR.

HARDWOOD ELEVATOR CROSSBAR FOR CONTROLINE USE ONLY

RUBBER MODEL BLADE TEMPLATE

TRIM EXCESS MATERIAL FROM STAMPING.

CEMENT FITTINGS IN PLACE AND REPLACE FILLER BLOCKS.

FOLDING HINGES FOR RUBBER MODEL PROPS ARE AVAILABLE IN SPECIAL "A" ACCESSORY PACKAGE SOLD THROUGH YOUR REGULAR DEALER.

SHAVE THIN SLIVER OF F-23 AND W-3 AWAY IF NECESSARY TO PERMIT WING RUBBER TO PASS THROUGH TO DOWEL.

DOWEL

DOWEL

FOR A SUPER DETAILED REPLICA, STRINGERED PORTIONS OF THE FUSELAGE MAY BE SHEET COVERED TO SIMULATE THE ALL-METAL FUSELAGE OF THE FULL SCALE L-19.

F-21

F-22

F-31

F-32

BERKELEY MIDGET TANK MAY BE INSTALLED

F-30 STEP KEEL

BELLCRANK PLY MOUNT

PUSHROD

OFFSET RUDDER FOR CONTROLINE ONLY.

RECTANGULAR PLYWOOD FIREWALL

## FUSELAGE TOP VIEW

CEMENT THREAD TO BOTH SIDES OF RUDDER, AS ON THE AILERONS, FLAPS AND ELEVATORS.

PRE-KOREAN ARMY MARKINGS. (BLACK)

DECALS INCLUDED ARE FOR PRESENT NATIONAL GUARD VERSION. SEE THREE VIEW FOR LOCATION.

TOP CENTER 1/16" X 1/8" STRINGER IS LAID FLAT, TO SUPPORT DORSAL FIN R-1. SEE CROSS-SECTIONS F-5, F-6 AND F-7.

U.S. ARMY 01327

POINT OF BALANCE CONTROLINE

POINT OF BALANCE FREE-FLIGHT

BASIC AIRFOIL LOWER CAMBER

TRIANGULAR SHAPED BALSA BLOCK.

ALMOST ALL ENGINES MAY ALSO BE INSTALLED IN PRONE OR INVERTED POSITION.

WING HOLD-DOWN DOWEL

WING HOLD-DOWN DOWEL

1/16" SHEET BALSA

DIE-CUT CELLULOID REAR WINDSHIELD

1/16" X 1/8" STRINGERS

SCRAP BALSA FILLET

BLACK ANTI-GLARE PANEL ON SILVER PRE-KOREAN VERSION.

TRIANGULAR SCRAP BALSA BRACE.

BELLCRANK PIVOT FOR "U-CONTROL"

PLYWOOD MOUNT

1/8" SHEET

.049X CUB SHOWN INSTALLED.

REF. LINE

FIREWALL

U.S. ARMY L-19A-CE SER. NO. 51-4711 SERVICE THIS AIRPLANE WITH MIL. S-5572 GRADE 80 AVIATION FUEL IF NOT AVAILABLE SEE T.O. 04-5-1 FOR EMERGENCY.

BATTERY LOCATED BETWEEN FRONT RUDDER PEDALS

STATIC SOURCE

JACK POINT

LIFT HERE

PUSHROD

CEMENT TAILSKID TO F-9, F-34 AND 1/16" X 1/8" LONGERON.

SCALE DETAILS CAN BE ADDED TO TAILWHEEL IF DESIRED. THIN SHEET METAL WILL GIVE BEST RESULTS, AS IT MAY BE SOLDERED TO THE WIRE.

DOWEL LOCATION FOR RUBBER POST (RUBBER POWERED MODELS ONLY.) REINFORCE WITH SHEET AS INDICATED BY PHANTOM LINES.

1/16" X 1/8" BOTTOM STRINGERS

1/16" X 1/8" SIDE REINFORCING LONGERONS

COWL IS FORMED FROM PRE-FABRICATED 1/2" SHEET SLABS.

STRUT FITTING

1/16" SHEET

WING STRUT LOCATION (JUNCTION WITH FUSELAGE)

## FUSELAGE SIDE VIEW

STRAP COWL BLOCKS TOGETHER WITH RUBBER BANDS UNTIL CEMENT DRIES.

ADD F-28, F-29 AFTER COWL IS SANDED.

DUAL EXHAUST STACKS MADE FROM MALTED MILK STRAW (EXTRA THICK) PAINT SILVER.

OIL WHEEL AFTER SOLDERING.

IF DESIRED, A SHEET METAL GEAR FAIRING, MADE FROM A TIN CAN, MAY BE SOLDERED TO THE GEAR WIRE, REPLACING F-24 AND F-25.

SOLDER WASHERS ON BOTH SIDES OF WHEEL. WHEEL SHOULD REVOLVE FREELY WITHOUT JAMMING.

FOLDING PROP & SHAFT INSTALLATION FOR RUBBER MODEL VERSION.

FOLDED BLADE POSITION

STOP

SPRING-BUSHING-

STEP KEEL

1/16" X 1/8"

1/16" X 1/8" STRINGERS

F-1 F-2 F-3 F-4 F-5 F-6 F-7 F-9 F-10 F-11 F-12

## CROSS-SECTIONS

CEMENT F-12 IN FUSELAGE AS SHOWN IN SIDE VIEW. CEMENT F-11 IN POSITION WITH 1/16" SLOT FOR LANDING GEAR WIRE. AFTER GEAR IS CEMENTED IN POSITION, CAP WITH F-10, THEN BRACE WITH F-26 AND F-27.

## FUSELAGE CONSTRUCTION DETAILS:

TO INSURE PROPER ALIGNMENT, THE FORMERS ARE POSITIONED ON THE STEP KEEL (F-30).

F-1 F-31 F-30 F-32

① CEMENT FORMER HALVES TOGETHER, THEN SLIP EACH ONE INTO PLACE ON STEP KEEL, STARTING WITH F-1. F-31 AND F-32 ARE INSTALLED IN NOTCHES TO ALIGN SLANTING FORMERS F-2 AND F-4.

② BEFORE FUSELAGE SIDES ARE INSTALLED, CEMENT 1/16" X 1/8" LONGERONS ALONG EDGES AS INDICATED. SEE SIDE VIEW.

③ THE FUSELAGE SIDES ARE NOW CEMENTED TO FORMERS F-1 THROUGH F-5. WET SHEET IF ANY DIFFICULTY IN BENDING IS ENCOUNTERED. HOLD UNTIL DRY WITH RUBBER BANDS. INSTALL F-9 NEXT, PULLING SIDES TOGETHER AT THE REAR.

④ SANDWICH GEAR BETWEEN F-10, F-11 AND F-12, BRACING WITH F-26 AND F-27.

F-9

⑤ FORMERS F-6, F-7, F-8 AND F-14 ARE NOW INSTALLED. CHECK SIDE VIEW FOR POSITION. WET SIDES AGAIN IF NECESSARY.

⑥ NEXT, INSTALL 1/16" X 1/8" CROSS-PIECES ON FORMERS F-2, F-3, F-4. NOTCH FOR F-21.

⑦ CABIN PARTS F-15, F-16, F-17, F-18, F-19, F-20 AND F-21 ARE NOW INSTALLED IN THAT ORDER.

F-10 OMITTED FOR CLARITY.

⑧ STRINGERS ARE NOW ADDED BETWEEN F-5 AND F-14. CUT THEM FLUSH WITH F-5, BUTT AGAINST F-14.

⑨ ADD F-13, SHEET CABIN FAIRING, DOWEL.

⑩ CEMENT F-23, F-22, DOWEL AND SHEET PLANKING IN PLACE.

⑪ BOTTOM STRINGERS ARE NEXT, WITH PLANKING FORWARD OF F-2.

⑫ CEMENT COWL TO FUSELAGE STARTING WITH SIDE BLOCKS, FIREWALL, BOTTOM BLOCK.

⑬ FRONT AND / OR TOP OF COWL MAY BE MADE REMOVABLE.

⑭ SAND COWL AND ENTIRE FUSELAGE SMOOTH, BEFORE APPLYING CELLULOID.

THE AIR INTAKE ON THE "SPACE-BUG" IS ON THE REAR OF FUEL TANK. RIG A TIMER ACTUATED FELT PAD TO SMOOTHER AIR INTAKE, CONKING ENGINE.

FOR ENGINE ACCESSIBILITY, TOP AND FRONT COWL BLOCK SHOULD BE REMOVABLE.

FELT PAD ARM TO TIMER

THE THIMBLE-DRONE .049 "SPACE-BUG" ENGINE MAY BE EASILY INSTALLED WITH A SMALL MODIFICATION.

MOVE FIREWALL TO THE REAR TO ACCOMMODATE THE LARGE TANK UNIT. NOTCH COWL SIDES FOR NEW FIREWALL LOCATION.

A SPECIAL CUT-OFF MUST BE MADE FOR THIS ENGINE, AS FUEL CANNOT BE CONTROLLED IN THE NORMAL FASHION. SEE ABOVE.

.049 WASP MAY BE INSTALLED ON REGULAR FIREWALL, BUT RAISE THRUST LINE TO CLEAR EXHAUST OPENING.

MOVE FIREWALL FORWARD FOR .045 SPITFIRE ENGINES, ETC.

## ENGINE INSTALLATIONS

CHAMPIONSHIP SCALE MODEL
**ACCESSORIES**

"A" ACCESSORIES:
For a rubber-powered model. Includes 1/16" sheet balsa, cement, rubber cut prop, folding blade hinges, prop shaft and rubber bushings. 25c.

"B" ACCESSORIES:
For a controline model. Includes 1/16" balsa, fuel proofed, bars and balsa stock for hinges. 25c.

## BUILDING AND FLYING INSTRUCTIONS:

This model was designed by Henry Struck, 3-time National Flying Scale Winner. This particular airplane was selected because its proportions are ideal for scale model flying. It embodies the features for gas model free-flight and controline flying. In addition, it can also be rubber powered.

The kit includes all the basic materials for constructing the free-flight gas model. The accessories for controline flying or rubber power can be obtained from your dealer.

Before beginning the actual construction of the model, look over the plans and pictures carefully. If any difficulties appear, try to construct the model as far as possible. We have tried to give as many instructions as possible directly on the plan. In all cases, take your time, making sure that all parts are correctly cut and aligned. Select a flat workboard for layout work. It is best to have a model knife, pliers, and sandpaper handy.

FUSELAGE:
See "Fuselage Construction Details" and follow step-by-step instructions. Be sure you decide on engine installation before glueing up the cowl blocks.

WING & TAIL SURFACES:
See "Wing Construction Detail". At this point you must determine if the model is to be used for free-flight or controline flying. Controline flying requires less dihedral than free-flight. Also, the elevator must be made moveable for controline model and the rudder must be off-set. The rudder is cemented to the fin in its proper position.

COVERING & ASSEMBLY:
Sandpaper the entire framework thoroughly to remove any rough spots. Cement the cabin windows and windshield in position. Be careful when cementing the celluloid as it dissolves in cement. Use only a small quantity of cement and be sure it does not smear. Note that the wing is removable and is held to the fuselage with a rubberbande over the dowel pegs.

The covering material included with this kit is "Silkspan" or "Skyesil". Both of these papers are water insoluable and may be applied to the framework slightly dampened. Attach the paper with clear dope. After the entire model has been added, stiching the paper only lightly, trim the excess. All wood parts with several coats of clear dope and sand with fine sandpaper. Finish the model should be doped in Olive Drab for the military version. The commercial version of the airplane may be any color, or all-silver to represent aluminum. The decals are applied in the usual manner by soaking in water and sliding directly on the doped covering. The decals are "fuel-proof" with many of the present fuels but it is best to test them with your particular fuel. If they smear, apply a coat of clear fuel-proofer that does not react with your fuel.

FLYING:
Select all types of free flight flying, test glide the model in tall grass and adjust for a smooth descent.

FREE FLIGHT GAS:
This model should fly perfectly if properly built. The point of balance for free flight flying should be approximately at the point shown. If the model banks severely to either side, check the wing and tail for warps. Stalling or diving characteristics can be corrected by adding weight either in the cowl or as far back in the fuselage as possible to bring the point of balance to the indicated position. If the model still has stalling or diving tendencies, use a 1/16" balsa wedge between the wing mount and the leading edge of the wing under the main spar if the model dives, and under the trailing edge if it stalls.

Glide, turn and power-off flight characteristics can be altered by changing the thrust line of the engine.

RUBBER-POWERED:
Use 3 strands of Berkeley Rubber-Powered Accessory Package can be obtained from your dealer. Modify the nose to hold the prop bearing and install a 3/16" dowel at the rear of the fuselage reinforcing the fuselage at the peg and cutting away bottom stringers for access to the rubber.

The prop must have three-bladed and right thrust to give proper performance. Use about 12 strands of 3/16" rubber for power, winding with a mechanical winder.

CONTROLINE:
Install the control mechanism before covering. Be sure that the entire system operates freely. Install lead-in wires from the bell crank through the wing tip guide. Attach to the flying wires with clips or snap swivels. Use 35-foot lines for the first test flight. Standard controline flying procedure information can be obtained from your dealer.

## CESSNA 305 A (L-19 A)
## "BIRD DOG"

SCALE 1"=1' 36" WINGSPAN LENGTH 25"
FOR FREE-FLIGHT GAS - CONTROLINE GAS - RUBBER POWER
.035 TO .049 ENGINES - FREE-FLIGHT
.049 TO .099 ENGINES - CONTROLINE


DESIGNED BY: HENRY STRUCK
DRAWN BY: DON McGOVERN
KIT ENGINEERED BY: BILL EFFINGER



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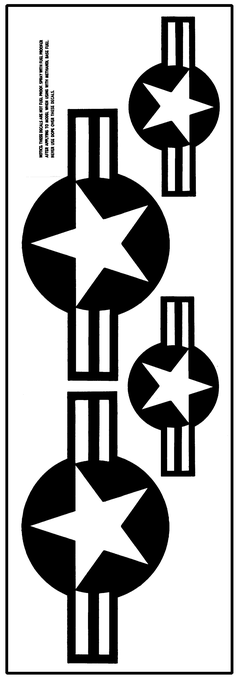
**BERKELEY MODELS INC.,**
WEST HEMPSTEAD, NEW YORK, U.S.A.


UNITED STATES POSTAL LAWS AND REGULATIONS PROHIBIT MAILING OF MODEL AIRPLANE ENGINES WITH EXPLOSIVE FUEL