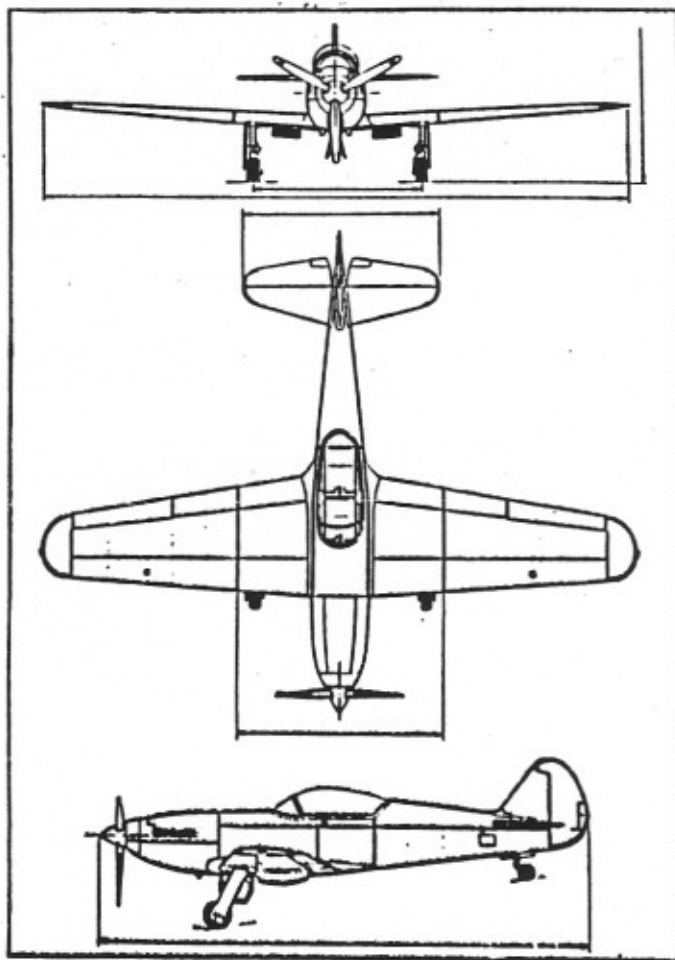




PROWLER AVIATION, INC.

Prowler Aircraft

Assembly Manual



SUB-KIT #1

EMPENNAGE ASSEMBLY SEQUENCE

VERTICAL STABILIZER

Date construction began_____

Date construction completed_____

HORIZONTAL STABILIZER

Date construction began_____

Date construction completed_____

ELEVATORS

Date construction began_____

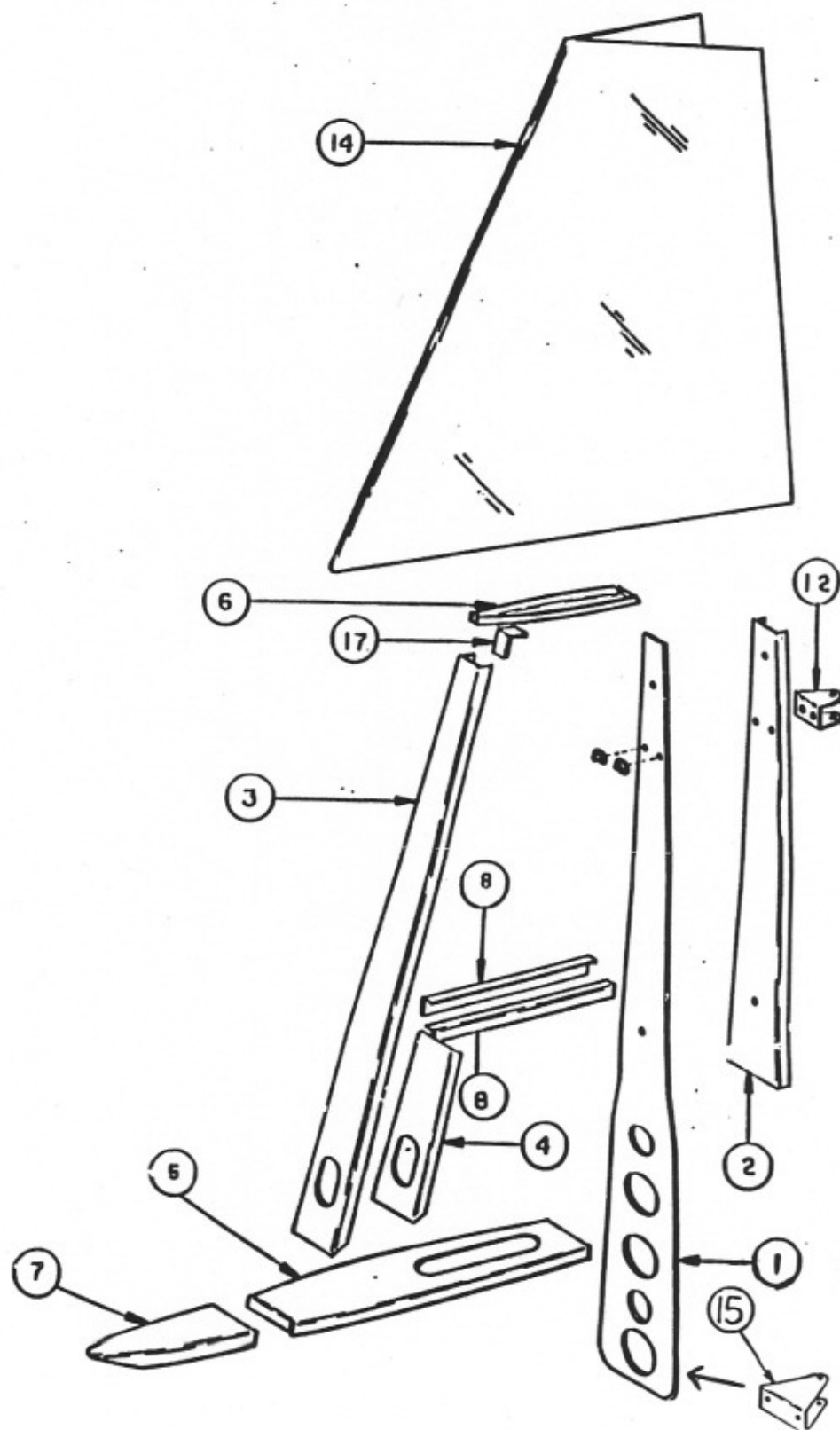
Date construction completed_____

RUDDER

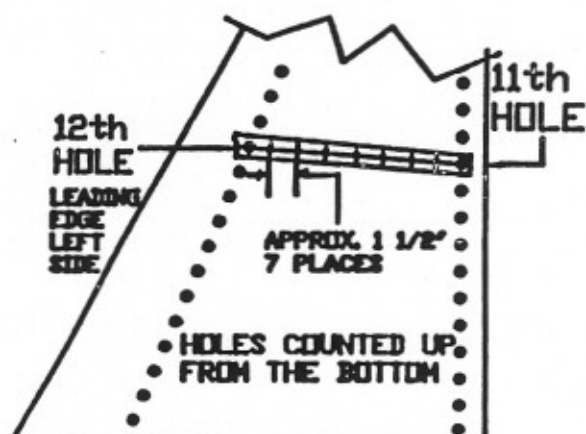
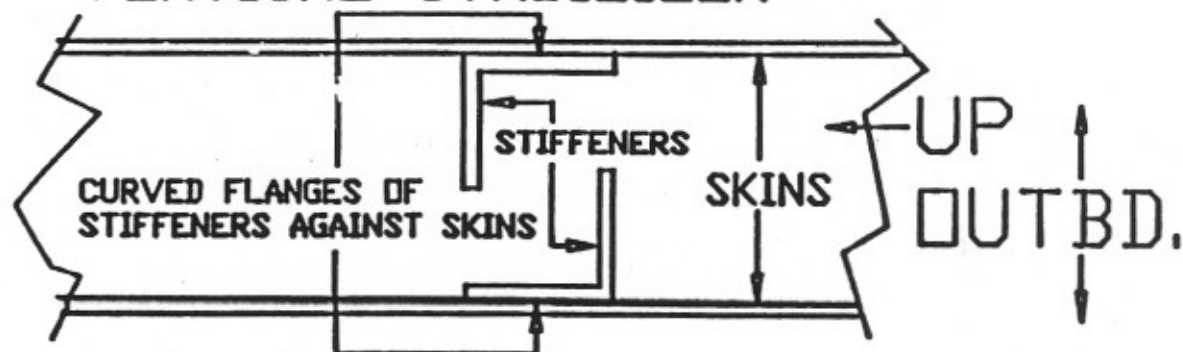
Date construction began_____

Date construction completed_____

VERTICAL STABILIZER



VERTICAL STABILIZER

FIGURE 2SKIN STIFFENER LOCATION
ON VERTICAL STABILIZERFIGURE 3STIFFENER INSTALLATION IN
VERTICAL STABILIZER

VERTICAL STABILIZER**STEP 1**

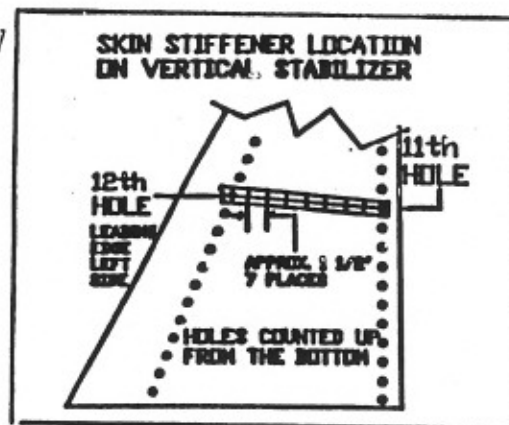
BACKDRILL ALL THE #40 HOLES FROM THE SKIN (BOTH LEFT AND RIGHT SIDES) THROUGH THE FRAME WITH A #30 DRILL.

STEP 2

REMOVE THE CLECOS FROM THE RIGHT SIDE. LIFT THE SKIN AND MARK WITH A FELT MARKER THE LOCATION OF THE AFT SIDE OF THE FRONT SPAR AND THE FORWARD SIDE OF THE REAR SPAR ON THE LEFT SKIN. REPLACE THE RIGHT SIDE CLECOS. ALSO REMOVE THE LEFT SIDE CLECOS AND REPEAT THE PROCEDURE ON THE RIGHT SKIN. WHEN THIS IS COMPLETED YOU MAY REMOVE ALL THE CLECOS.

STEP 3

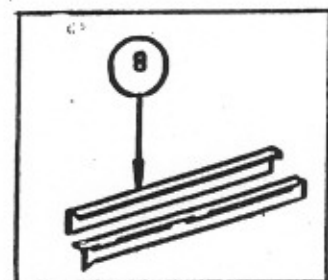
PLACE A PIECE OF MASKING TAPE ON THE OUTSIDE OF THE LEFT SKIN FROM THE FRONT SPAR TO THE REAR SPAR. DRAW A LINE FROM CENTER HOLE TO CENTER HOLE FOR A TOTAL OF SEVEN EVENLY SPACED HOLES. DRILL THE TWO END HOLES ONLY THROUGH THE SKIN WITH A #40 DRILL.



VERTICAL STABILIZER

STEP 4.

DRAW A CENTERLINE THE LENGTH OF THE CURVED FLANGE ON AN ITEM 8 STIFFENER. POSITION THE STIFFENER INSIDE THE LEFT SKIN SO THE CENTERLINE ON THE FLANGE IS VISIBLE THROUGH THE TWO #40 HOLES. CENTER THE STIFFENER (FORE AND AFT) BETWEEN THE TWO LINES DRAWN ON THE SKIN IN STEP 2. THEN DRILL AND CLECO THE TWO HOLES THROUGH THE STIFFENER. DRILL AND CLECO THE REMAINING FIVE HOLES AS NOTED IN STEP 3.

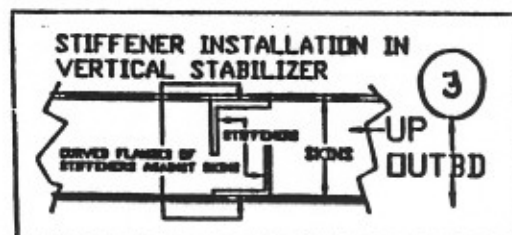


STEP 5.

OPEN UP ALL SEVEN HOLES WITH A #30 DRILL. DIMPLE THE SEVEN HOLES IN THE SKIN AND THE STIFFENER WITH A 1/8 INCH DIMPLE DIE. THEN TRIM BOTH ENDS OF THE STIFFENER APPROX. 1/8 INCH SHORTER THAN THE DISTANCE BETWEEN THE LINES DRAWN ON THE SKIN IN STEP 2 SO THE STIFFENER WILL NOT TOUCH THE SPARS DURING ASSEMBLY.

STEP 6.

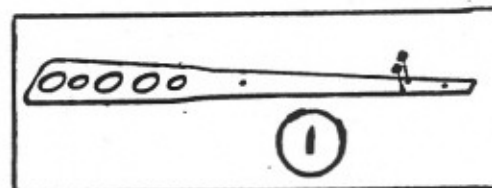
REPEAT STEPS 3 THROUGH 5 TO ATTACH THE RIGHT SKIN STIFFENER. ROTATE THE RIGHT STIFFENER 180 DEGREES WITH THE CURVED FLANGE AGAINST THE SKIN.



VERTICAL STABILIZER

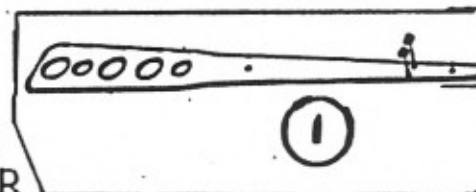
STEP 7.

COUNTERSINK THE AFT SIDE OF THE 3/32 INCH HOLES ON THE REAR SPAR, ITEM 1 AND INSTALL TWO 3/16 INCH FLOATING NUT PLATES ON THE FORWARD SIDE OF THE SPAR USING PROWLER PART #998996-AN426AD3-6 RIVETS. ALSO SEE PAGE 3



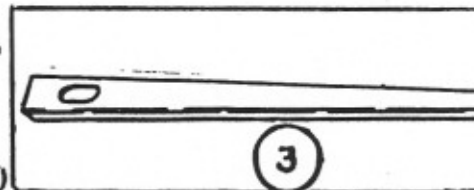
STEP 8.

IDENTIFY WITH A FELT MARKER, THE AFT SIDE OF THE REAR SPAR. ITEM 1 PAGE 3 INSTALL CLECOS THROUGH EVERY OTHER HOLE INTO BOTH LEFT AND RIGHT SIDE SKIN. ALSO INSTALL CLECOS THROUGH EVERY OTHER HOLE INTO THE FRONT SPAR FLANGE, REAR SPAR FLANGE, TOP AND BOTTOM SPAR FLANGE.



STEP 9.

COUNTERSINK THE BOTTOM TEN HOLES ON EACH FLANGE OF ITEM 3 ON THE OUTBOARD SIDE WITH A 1/8 INCH COUNTERSINK. DIMPLE ALL THE REMAINING FLANGE HOLES IN ITEM 3 AND ALL THE HOLES IN ITEMS 2, ITEMS 5, AND ITEMS 6. ALSO COUNTERSINK ALL THE CORRESPONDING HOLES IN THE SKINS

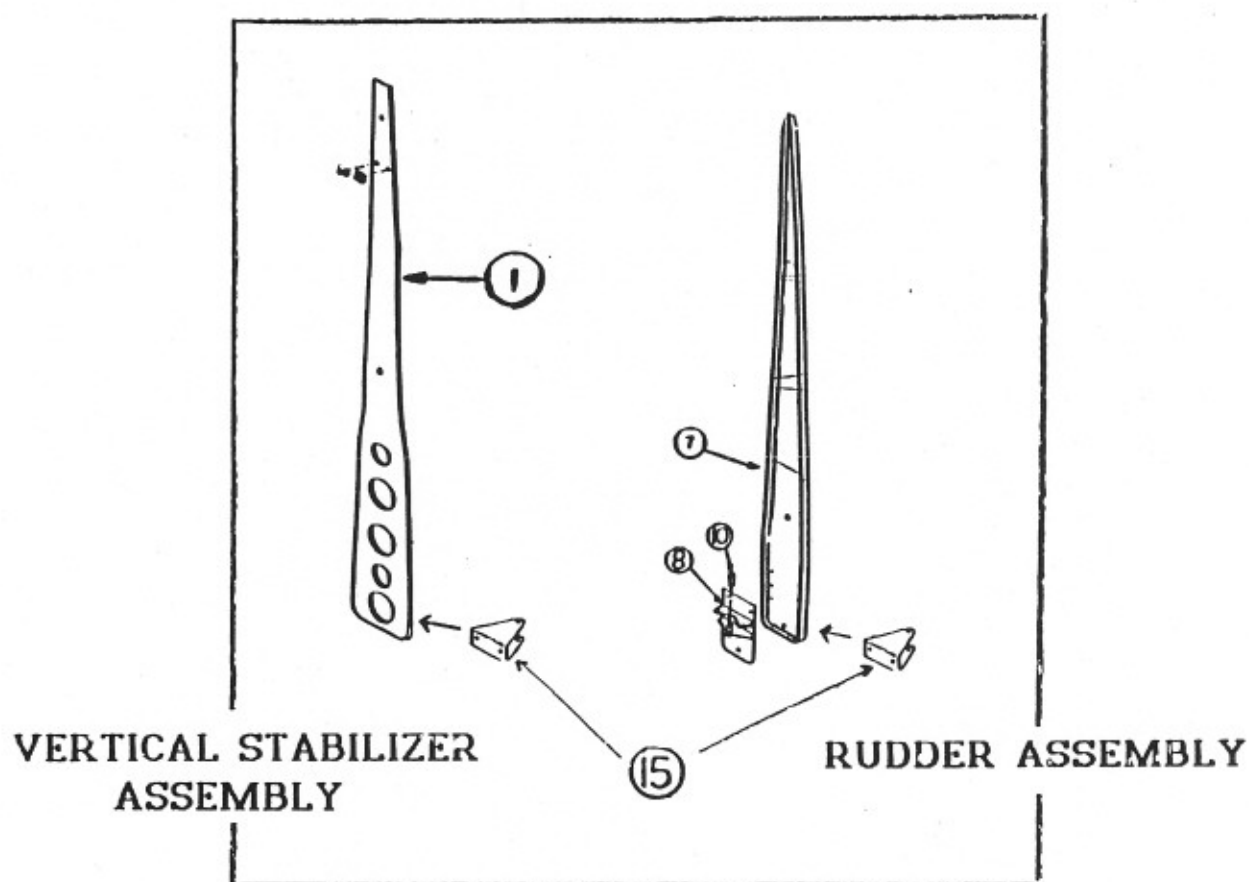


WARNING--DO NOT DIMPLE OR COUNTERSINK ANY HOLES IN ITEM NUMBER FOUR

Dimple

VERTICAL STABILIZER

STEP 9a. INSTALL ITEM 15 TO THE REAR SPAR, ITEM 1. ALSO REFER TO THE **RUDDER ASSEMBLY** PAGE 51, STEP 6. ITEM 15 WILL ATTACH TO THE **VERTICAL FIN** ALONG WITH ITEMS 8 AND 10 OF THE **RUDDER ASSEMBLY**. THIS PROCESS WILL EVENTUALLY CONNECT THE RUDDER WITH THE VERTICAL STABILIZER.



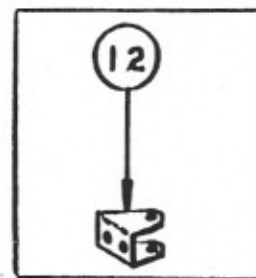
VERTICAL STABILIZER

STEP 10.

AS YOU BUILD THE FRAME YOU SHOULD FACE THE HEADS OF THE RIVETS AFT FOR BETTER STABILITY. CLECO THE FRAME ONLY TOGETHER AND RIVET WITH AN ASSORTMENT OF LENGTHS, RIVET #AN470AD4-4&5. CLECO THE STIFFENERS TO THE SKINS AND RIVET USING PROWLER PART # 998988-AM426AD4-4 RIVETS. CLECO AND RIVET THE SKINS TO THE FRAME USING PROWLER PART #998988-AM426AD4-4 RIVETS. IMPORTANT-- RIVET BOTH SKINS TO ITEM 3 FIRST, THEN RIVET THE REMAINDER OF THE STABILIZER

STEP 11.

INSTALL THE TOP HINGE BRACKET, ITEM 12 USING TWO PROWLER PART # 997998-AN3-5A BOLTS AND WASHERS.



CAREFULLY SET THE VERTICAL STABILIZER ASIDE AND OUT OF THE WAY WHILE YOU WORK ON THE HORIZONTAL STABILIZER. COMPLETE YOUR ASSEMBLY SEQUENCE SHEET ON PAGE 2 AND PROCEED TO THE NEXT STEP.