

NUMBER DRILL BITS:
 #40=PILOT HOLES (.098")
 #30=A4 (.129")
 #20=A5 (.161")

RIVET DESCRIPTION
 A4 = AVEK 1/8" BLIND RIVET
 A5 = AVEK 5/32" BLIND RIVET

DRILLING:
 BACK DRILL THROUGH THE PRE-DRILLED
 PILOT HOLES IN THE SPAR WHEN THE
 RIB FLANGE CENTER LINE IS VISIBLE.

RIVETING:
 THE ARROWS POINTING TO THE PART NUMBERS
 ALSO POINT TO THE SIDE THE RIVET HEAD IS
 PULLED FROM.
 CHECK: THE RIVETER HAS A SPECIAL MACHINED
 NOSE PIECE TO TRANSFORM THE FLAT
 COUNTERSUNK RIVET HEAD INTO
 A ROUND DOMED HEAD.

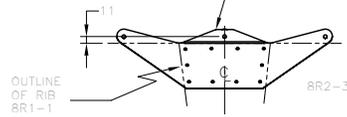
8R2-4 (QUANTITY = 2)
 UPPER HINGE ANGLE
 4XA5

TAIL LIGHT WIRING
 AN931-4-7
 1/4" ID GROMMET
 7/8" HOLE IN RIB
 250 mm FROM
 END OF RIB

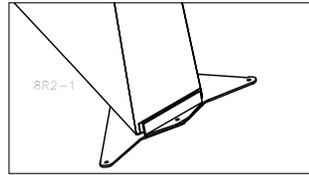
8R1-1:
 ALIGN THE BOTTOM OF THE LOWER REAR RIB
 FLUSH AND EVEN WITH THE BOTTOM OF THE
 SPAR. THE RIB FITS **INSIDE** THE SPAR FLANGE
 AND **ON TOP** OF THE DOUBLERS.

TAIL LIGHT WIRING
 AN931-4-7
 1/4" ID GROMMET
 7/8" HOLE IN SPAR
 150 mm FROM
 END OF SPAR

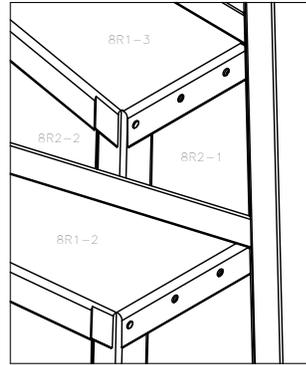
CLECO THE HINGE BRACKET PARALLEL.



MARK THE CENTER LINE THROUGH THE HINGE HOLE.
 CLECO THE HINGE BRACKET 8R2-4 TO THE HORN.
 CLAMP THE FRONT EDGE OF THE HINGE BRACKET.



POSITION THE HORN WITH THE HINGE BRACKET
 ON THE REAR RIB, BY LINING UP CENTER
 LINES. DRILL & CLECO 5 HOLES, REMOVE
 SPACER TO CHECK THE HORN IS CORRECTLY
 POSITIONED. CHECK: 11mm FROM THE
 CENTER OF THE HINGE HOLE TO THE REAR
 RIB.
 FINISH DRILLING WITH #20
 INSTALL THE RIB BY POSITIONING THE END OF
 THE SPAR ON THE HORN

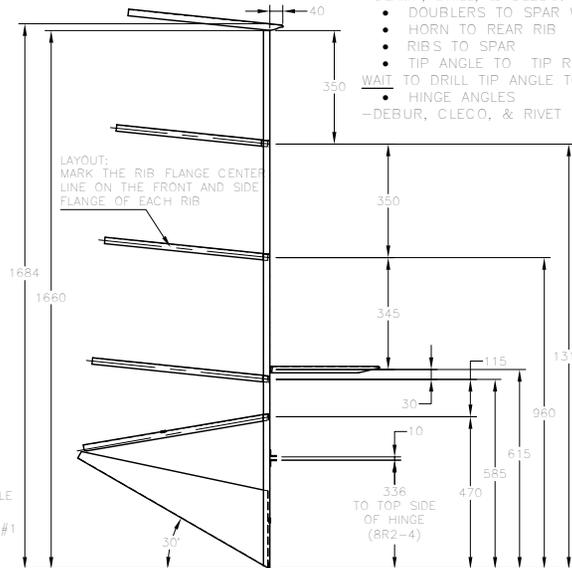


THE RIB FLANGE FITS ON TOP OF THE
 DOUBLERS (THE GAP BETWEEN THE RIB
 FLANGE WILL PULL TOGETHER WHEN RIVETED).

CHECK: THE SIDES OF THE RIBS ARE
 CENTERED LEFT AND RIGHT ON THE SPAR.

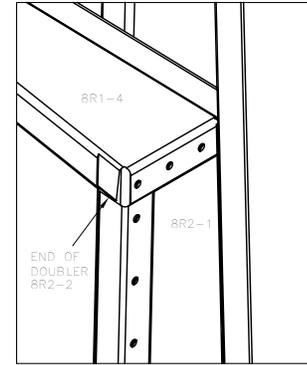
BUILDING SEQUENCE

- TRIM DOUBLER EVEN TO SIDE FLANGE OF SPAR
- CLAMP, DRILL, & CLECO:
 - DOUBLERS TO SPAR WEB
 - HORN TO REAR RIB
 - RIBS TO SPAR
 - TIP ANGLE TO TIP RIB
- WAIT TO DRILL TIP ANGLE TO SPAR
 - HINGE ANGLES
- DEBUR, CLECO, & RIVET

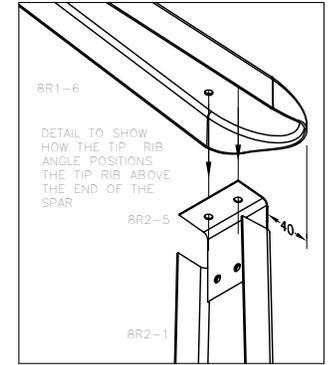


RUDDER SKELETON ASSEMBLY

REFERENCE: DISTANCES ARE
 MEASURED FROM THE BOTTOM OF THE
 RUDDER SPAR ALONG CENTERLINE.

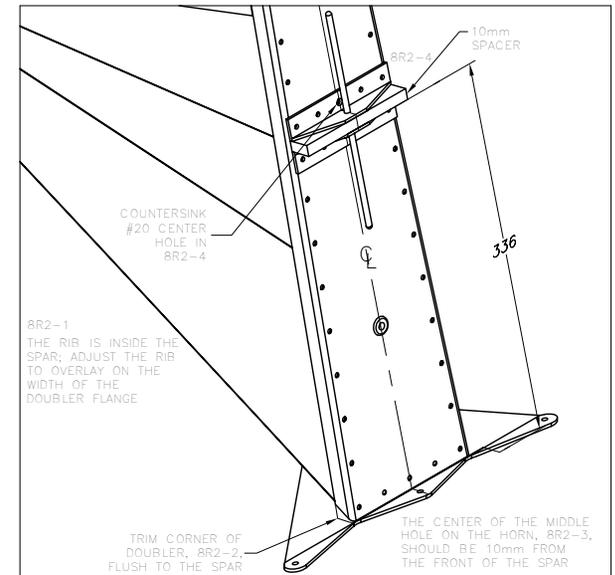


RIB #4 FITS ABOVE THE END OF THE
 DOUBLERS. LENGTH OF DOUBLER = 950mm



DETAIL TO SHOW
 HOW THE TIP RIB
 ANGLE POSITIONS
 THE TIP RIB ABOVE
 THE END OF THE
 SPAR

MARK A LINE AT 40mm FROM THE FRONT OF
 THE RIB. POSITION THE FRONT EDGE OF THE
 TIP ANGLE ON THE 40MM LINE.
 WAIT TO DRILL THE TIP ANGLE TO THE SPAR
 UNTIL AFTER THE REAR SKIN 8R3-1 IS
 INSTALLED, THE RIB IS POSITIONED TO MATCH
 THE TOP EDGE OF THE SKIN.



8R2-1
 THE RIB IS INSIDE THE
 SPAR; ADJUST THE RIB
 TO OVERLAY ON THE
 WIDTH OF THE
 DOUBLER FLANGE

TRIM CORNER OF
 DOUBLER, 8R2-2,
 FLUSH TO THE SPAR

THE CENTER OF THE MIDDLE
 HOLE ON THE HORN, 8R2-3,
 SHOULD BE 10mm FROM
 THE FRONT OF THE SPAR

CLAMP THE TWO HINGE ANGLES BACK TO BACK TO DRILL THE 1/4" HOLE THROUGH
 BOTH PIECES AT ONCE (EDGE DISTANCE = 9mm). DEBUR BY RUNNING A FLAT FILE
 OVER THE HOLE. COUNTERSINK THE MIDDLE HOLES FOR AN A5 RIVET. PLACE A 10mm
 SPACER BETWEEN THE TWO HINGE ANGLES AND BOLT TOGETHER (TO KEEP THEM
 PARALLEL) POSITION ON THE SPAR WITH THE 1/4" ON THE AIRCRAFT CENTER LINE. ONLY
 USE A **FLAT NOSE PIECE** ON THE RIVETER FOR THE COUNTERSHUNK RIVET PULLED
 FROM THE FRONT TO PROVIDE REQUIRED CLEARANCE FOR THE BOLT WHEN THE RUDDER
 IS ATTACHED TO THE REAR FUSELAGE.

STOL
 CH 801

ORIGINAL INFO
 MJM 06/19/00
 REVISION INFO
 MJM 02/25/02

DESCRIPTION
 RUDDER SKELETON ASSEMBLY:
 UPPER HINGE & HORN DETAIL

ASSY NO.

8RU-1

COPYRIGHT © 2002 ZENITH AIRCRAFT CO. WWW.ZENITHAIR.CO