

## Section C75-WA-1 Wing Skeleton



This manual has been prepared for assembly of the wing skeleton supplied with match drilled parts. This photo assembly manual is intended as a supplement to the drawings. If there is any discrepancy between this manual and the drawings, the drawings supersede this manual. For more information on building standards and allowable tolerances see "Construction Standards for Zenair Light Aircraft" available from Zenith Aircraft Co.



**P/N: C75W2**  
Wing Spar  
(factory assembled)

Separate the left and right spar.

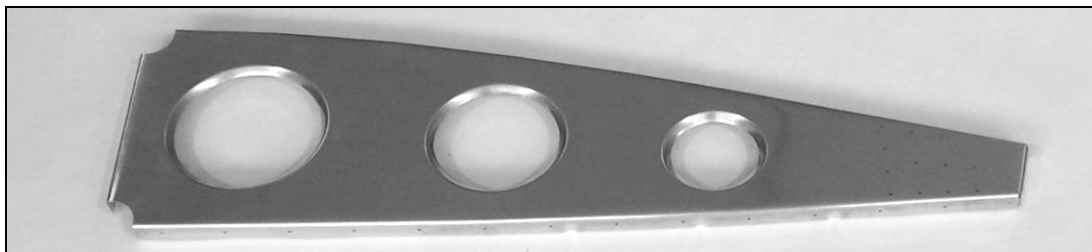


The Front upper strut fitting C75W2-5 is supplied taped to the spar with the associated hardware. Keep the part with the appropriate spar and mark it left or right.



**P/N: C75W1-2K**  
Wing Tank Rear Rib

First expand the holes in the flanges with a #30 drill bit. Then expand the holes to #20.



**P/N: C75W1-2FB**  
Wing Rear Rib  
(FB refers to being predrilled for the Flaperon Bracket, 75W3-5)

**P/N: C75W1-2**  
Wing Rear Rib

First expand the holes in the flanges with a #30 drill bit. Then expand the holes to #20.



**P/N:** C75W1-1  
Nose Rib

Nose Rib at Strn. 280, the top hole on the rear flange needs to be expanded to fit the AN3 bolt.

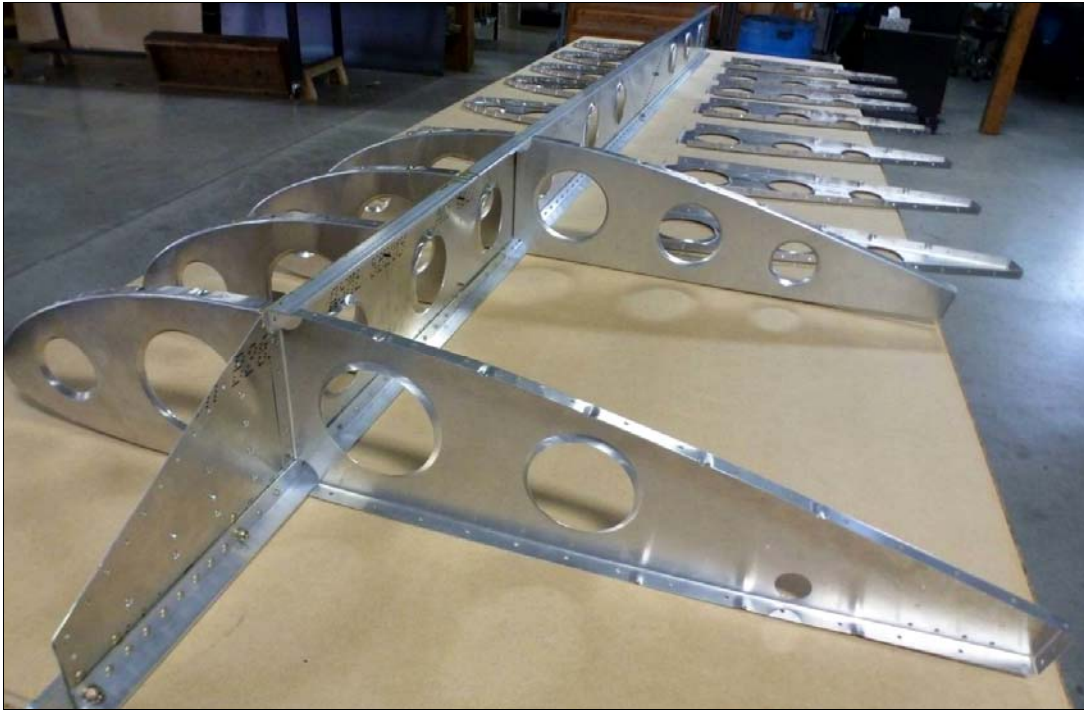
Cleco the rib in place, expand the hole, and re-install the AN3-5A bolt that was removed from the spar. Torque according to the Construction Standards.

**Orientation:** The Nose Rib flanges should point outboard.

**Orientation:** The Spar Cap flanges point aft.







**P/N:** C75W1-2K  
Wing Tank Rear Rib

Cleco the Wing Tank Rear Rib at Stn. 280.

**Orientation:** The Wing Tank Rear Rib flanges should point inboard.



**P/N:** C75W1-1  
Nose Rib

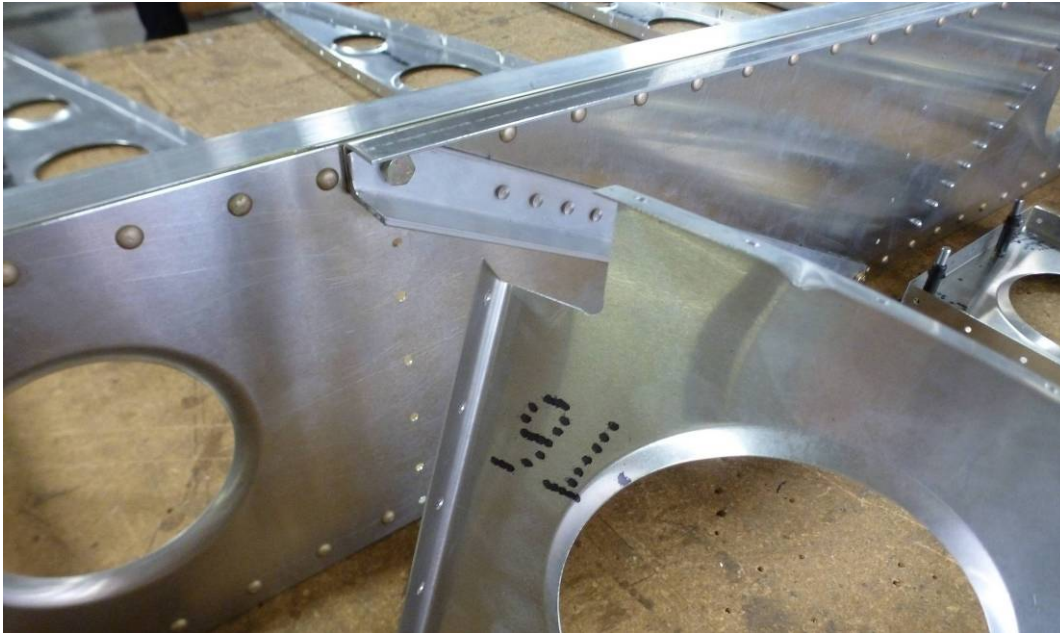
Nose rib at Stn. 2040, the top flange overlaps underneath the spar web doubler.

To close the gap, add a small joggle to the rib flange.

Remove the rib to gently tap on the flange to flatten the radius.



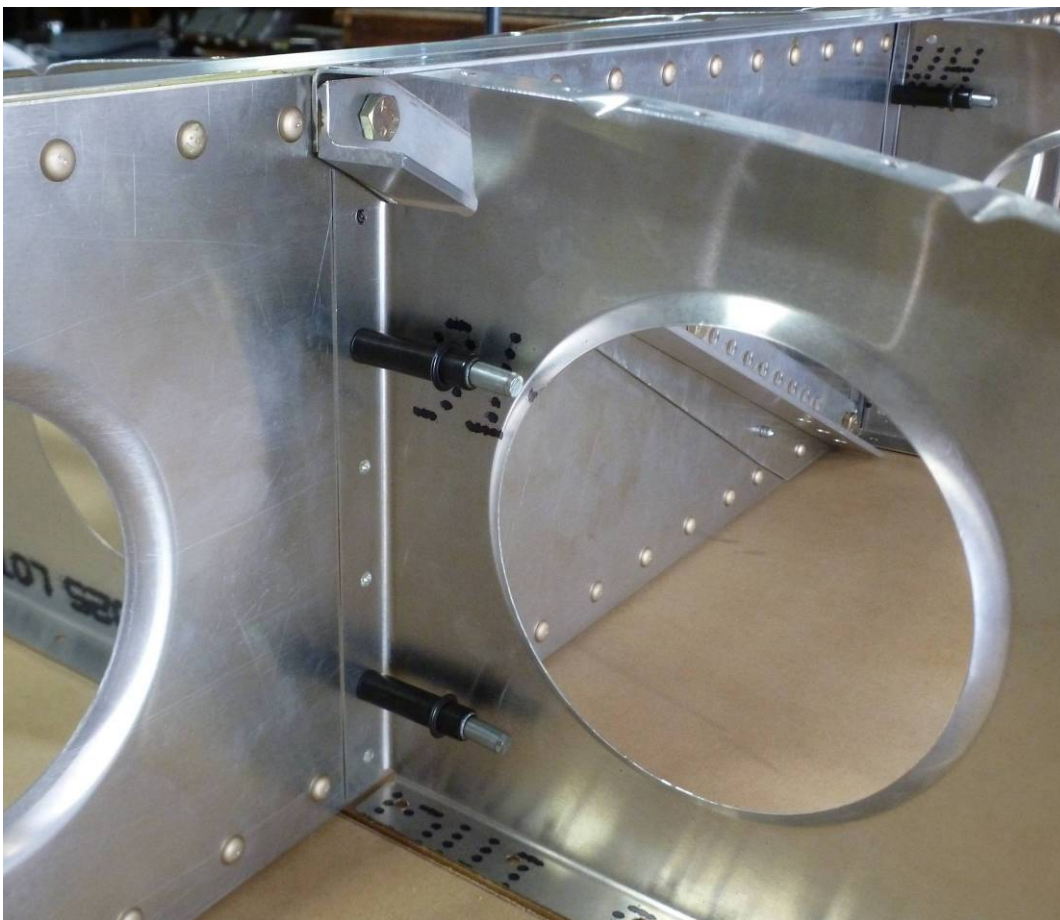




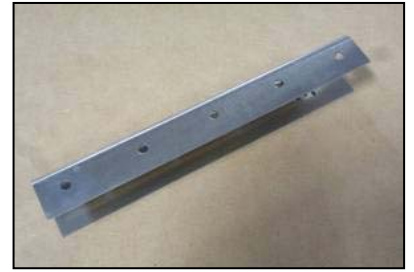
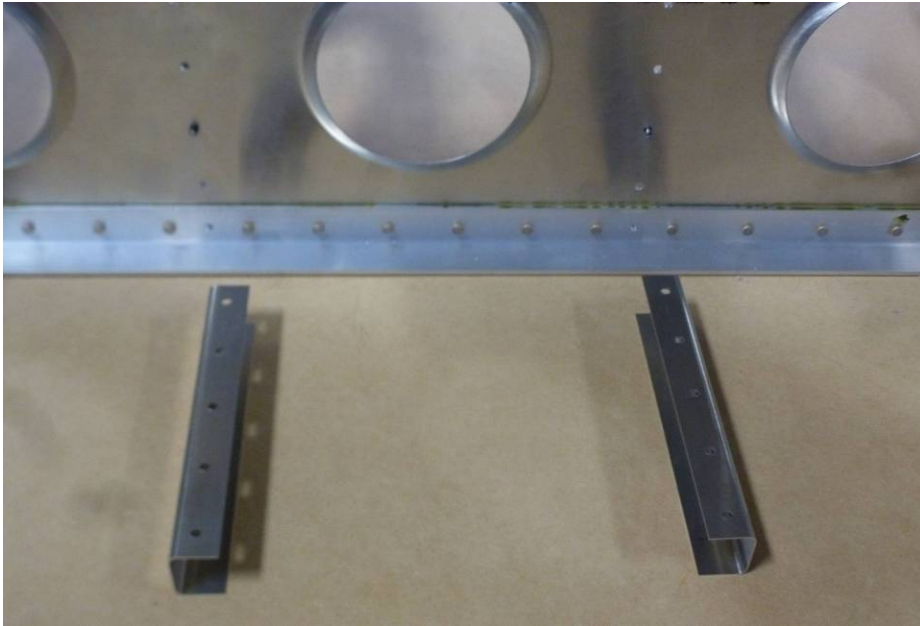
**P/N: C75W1-1S**  
Strut Nose Rib

Nose Rib at Stn. 2434.

This rib has a cutout in the top flange to make room for the strut angle extrusion.



Cleco the nose rib to the rear rib.



**P/N: C75K1-3**  
Web Channel



Cleco the Web Channels to the Spar with the Nose Ribs at Stations 500 and 720.





Cleco the Nose Ribs and Rear Ribs to the Spar.  
See the table below for the ribs that correspond to each station.

**Orientation:** All rib flanges point outboard, with the exception of C75W1-2K.

Station	Nose Rib	Rear Rib
280	C75W1-1	C75W1-2K
500	C75W1-1	C75K1-3
720	C75W1-1	C75K1-3
960	C75W1-1	C75W1-2
1300	C75W1-1	C75W1-2
1640	C75W1-1	C75W1-2FB
2040	C75W1-1	C75W1-2FB
2434	C75W1-1S	C75W1-2
2720	C75W1-1	C75W1-2
3060	C75W1-1	C75W1-2
3400	C75W1-1	C75W1-2FB





**P/N: C75W4-1**  
Root Nose Rib



**P/N: C75W4-2**  
Root Rear Rib

First expand the holes in the top and bottom flanges of the Root Rear Rib with a #30 drill bit. Then expand the holes to #20.

Expand the holes in the front flange of the Root Rear Rib to #12.

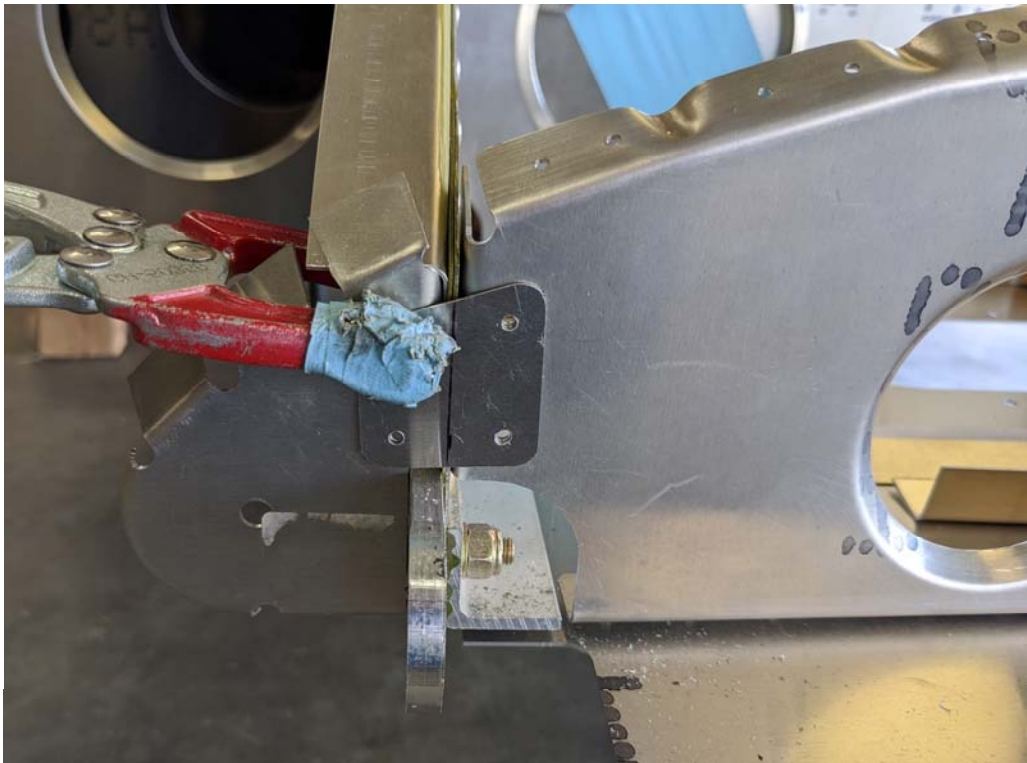


Cleco the Root Nose Rib and Root Rear Rib to the Spar.



**P/N: C75W4-3**  
Root Rib Doubler

Draw a vertical line bisecting the Root Rib Doubler.



Position the Root Rib Doubler on the Root Ribs with the drawn line oriented on the spar.

**Check:** Make sure there is sufficient edge distance for the rivets in the root ribs.

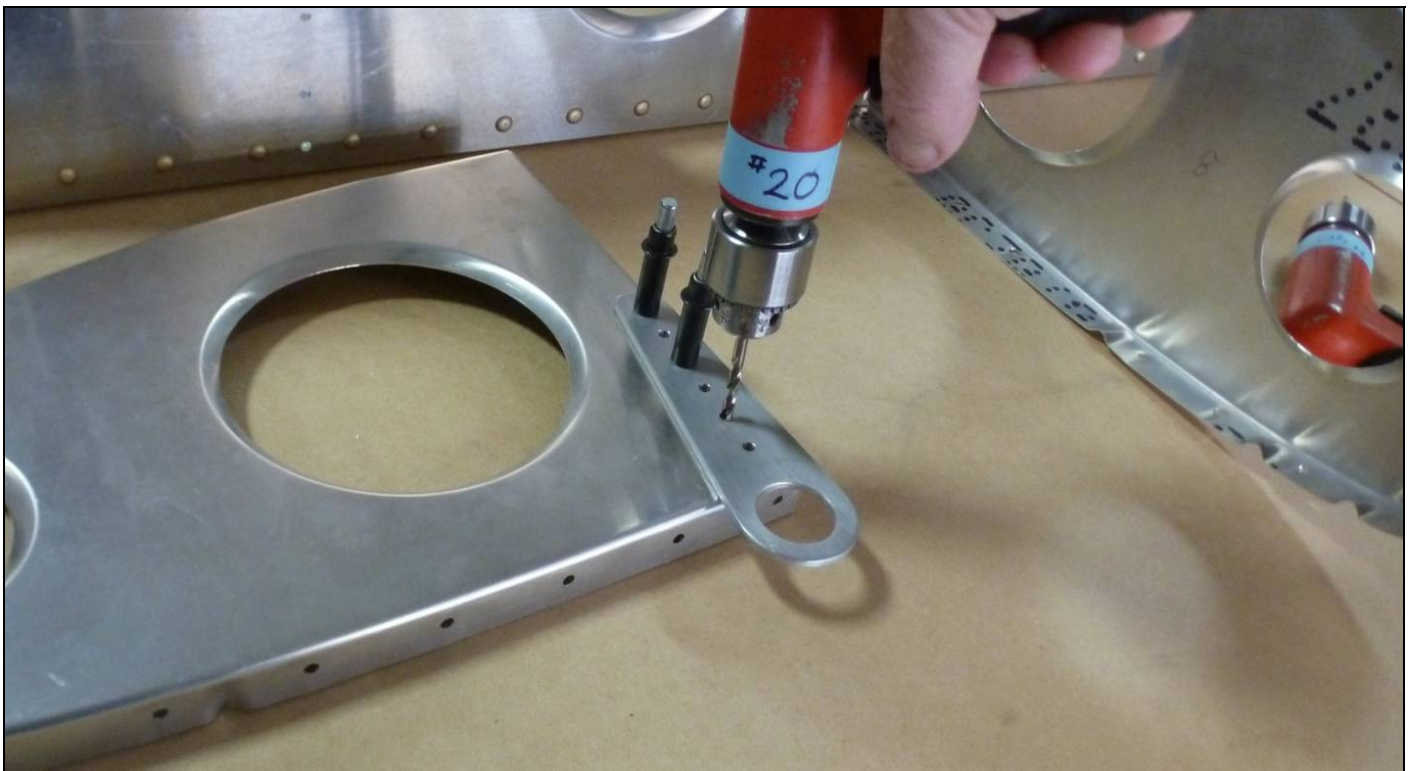
Clamp the Root Rib Doubler to the Root Ribs. With a #30 drill bit, drill the Root Rib Doubler, Root Nose Rib, and Root Rear Rib, and Cleco. Expand the holes with a #20 drill bit.



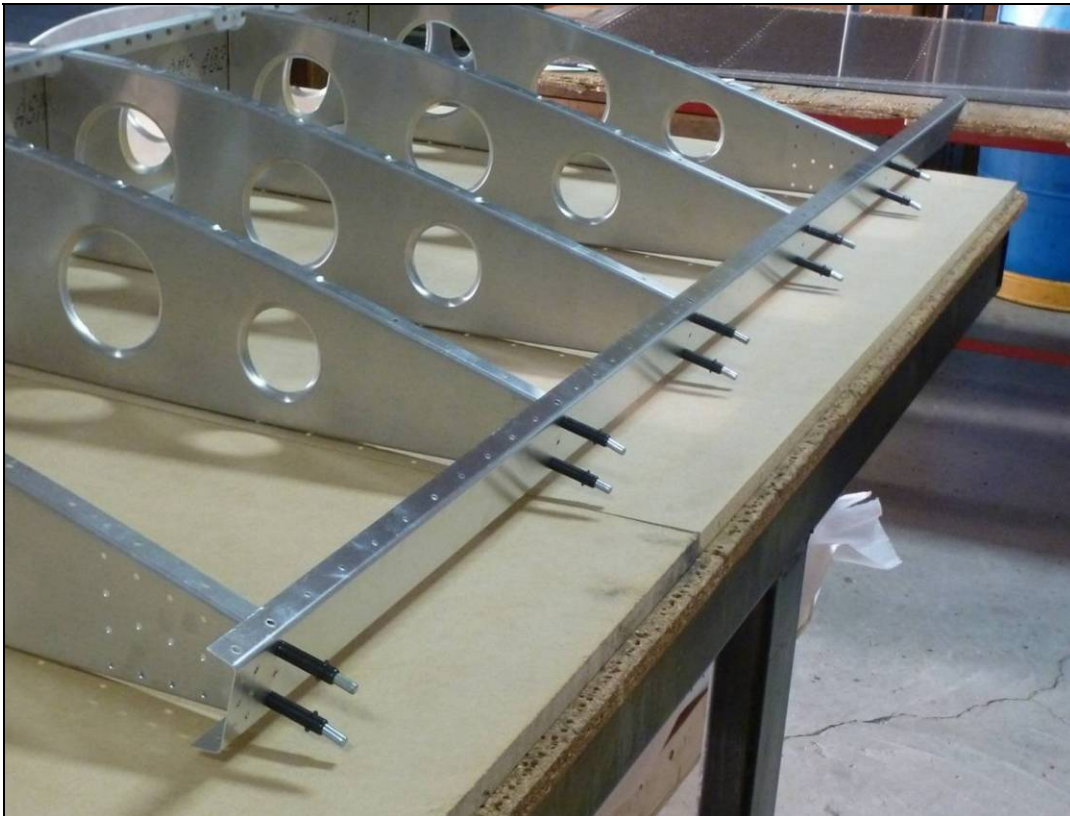


**P/N: C75W6-7**  
Tie Down Ring

Remove the Nose Rib at Stn. 2720. Position the Tie Down Ring on the Nose Rib. The Tie Down Ring should be flush with the back flange of the Nose Rib. The top of the hole in the Tie Down Ring should be flush with the bottom flange of the Nose Rib. Clamp the Tie Down Ring to the Nose Rib.



With a #40 drill back drill and Cleco the Tie Down Ring to the Nose Rib. With a #20 drill expand the holes and Cleco the Tie Down Ring to the Nose Rib. Reinstall the Nose Rib to the Spar at Stn. 2720.



**P/N: C75W4-5**  
O/B Rear Channel

Cleco the O/B Rear Channel to the Rear Ribs.



**P/N: C75W4-4**  
I/B Rear Channel

Cleco the I/B Rear Channel to the Rear Ribs.





**P/N: C75W3-4**  
Rear Root Doubler



Slide the Rear Root Doubler between the Root Rear Rib and the I/B Rear Channel. The Rear Root Doubler should overlap on top of the rear flange of the Wing Tank Rear Rib. Cleco the Doubler to the Rear Channel.



**P/N: C75W4-6**  
Rear Channel  
Doubler

Cleco the Rear Channel Doubler to the I/B and O/B Rear Channels.



**P/N: C75W4-7**  
Top Rear  
Channel Angle

**P/N: C75W4-8**  
Bottom Rear  
Channel Angle



Cleco the Top and Bottom Rear Channel Angles to the I/B Rear Channel.





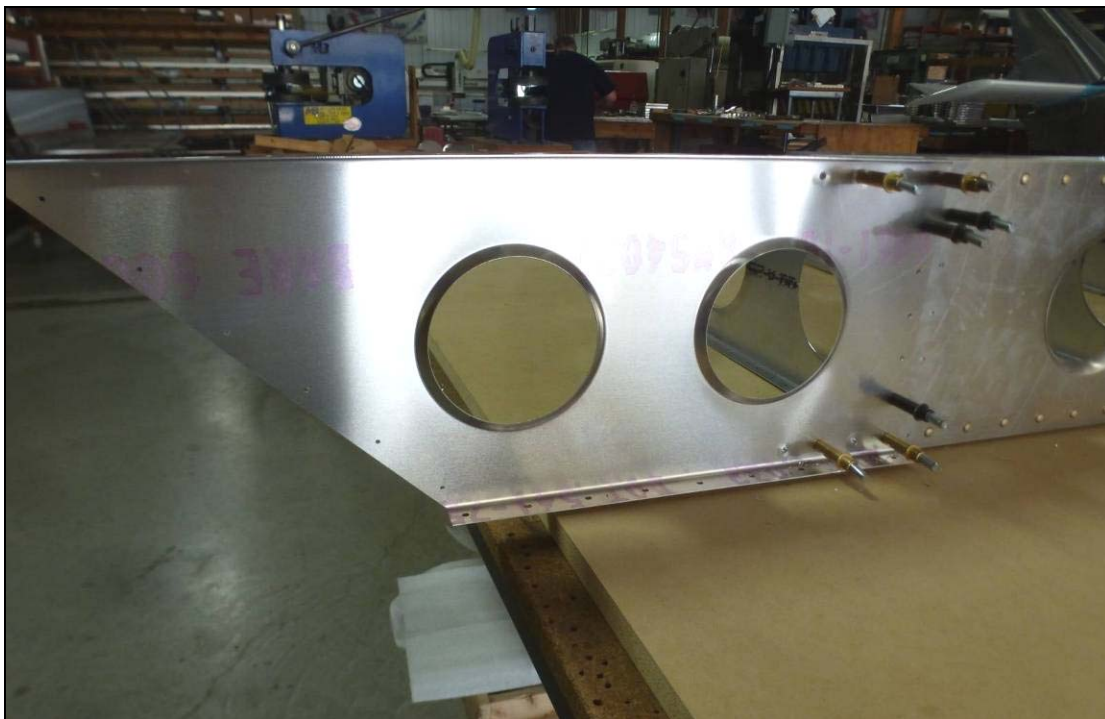
**P/N: C75W4-5A**  
O/B Rear Channel Angle



Cleco the O/B Rear Channel Angle to the O/B Rear Channel at the tip.



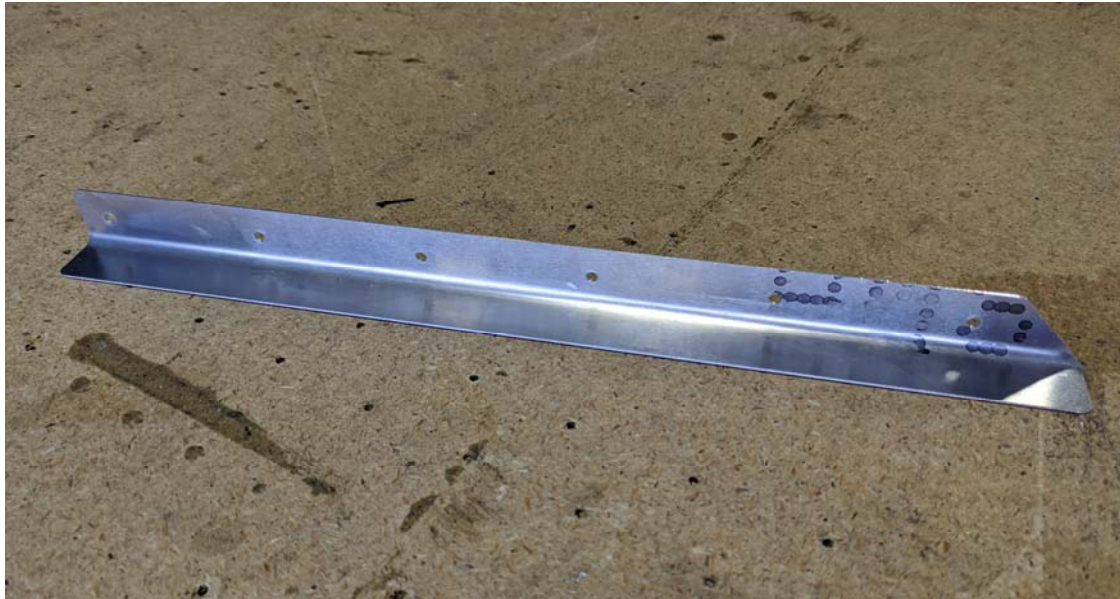
**P/N:** C75W3-2  
Spar Tip



Cleco the Spar Tip to the Spar. Expand the holes through the Spar Tip into the Spar Caps with a #12 drill bit and Cleco.

**Note:** The holes in the Spar Web do NOT need to be expanded.





P/N: C75W3-2A  
Spar Tip Angle



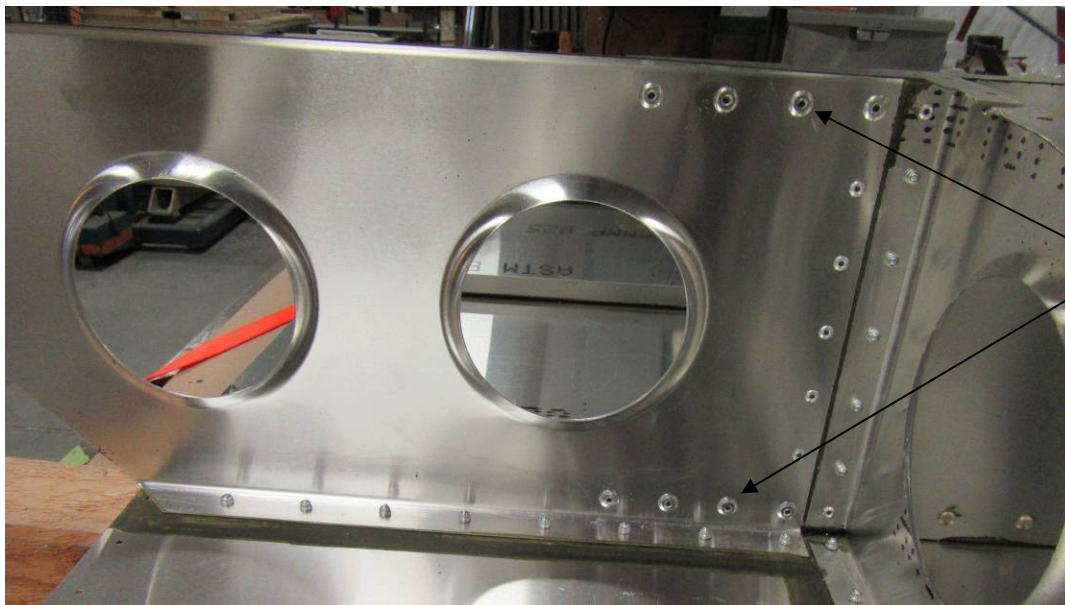
Cleco the Spar Tip Angle to the Spar Tip.



Disassemble, deburr the holes, reassemble, and rivet the Wing Skeleton together.

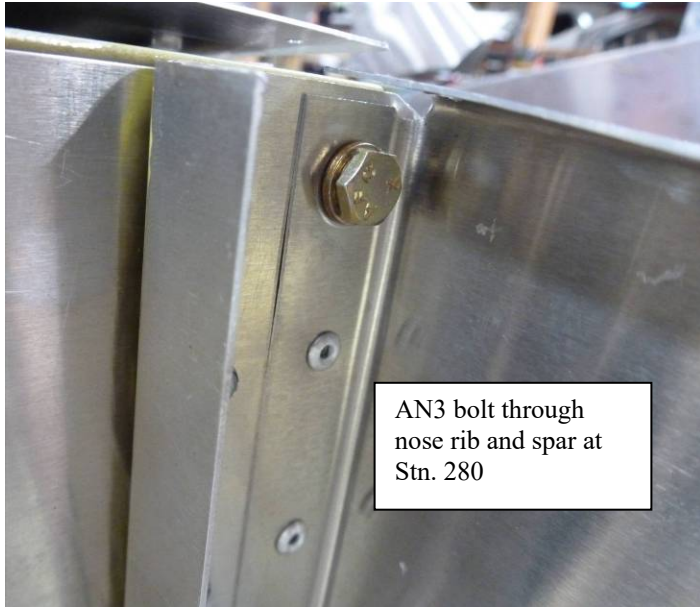
**Reference:** See drawing C75-WA-1 for rivet and bolt diameter information.

**Note:** If installing the Nav/Strobe option kit, refer to page 20 on positioning the Cradle Cable Tie Mounts before riveting the rear channel.

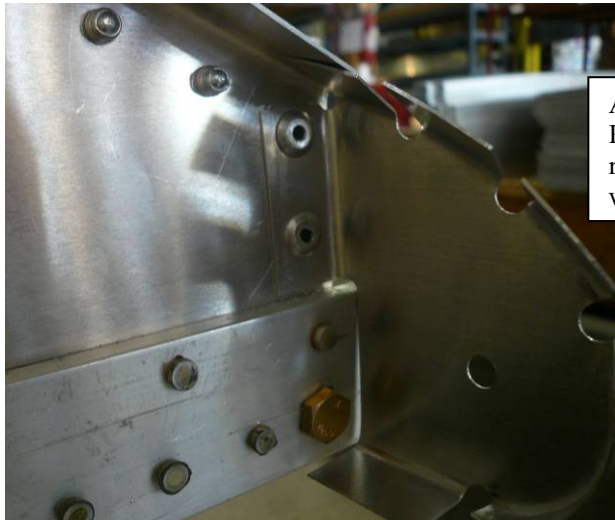
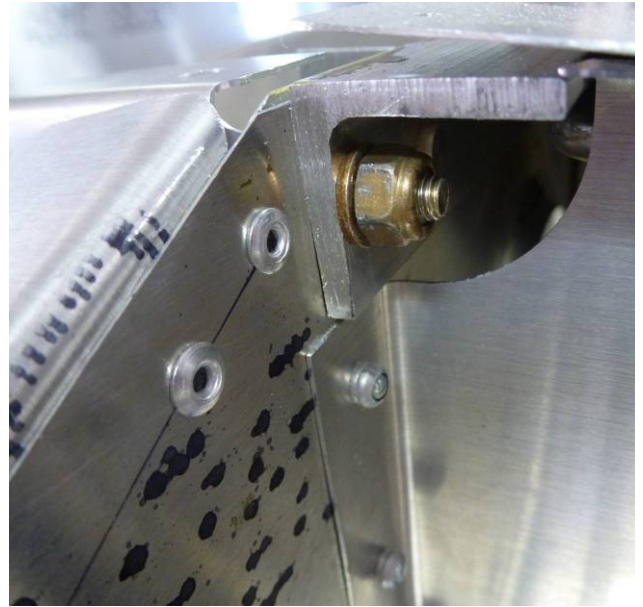


A6 rivets (QTY=8)  
Spar tip to upper and  
lower spar caps



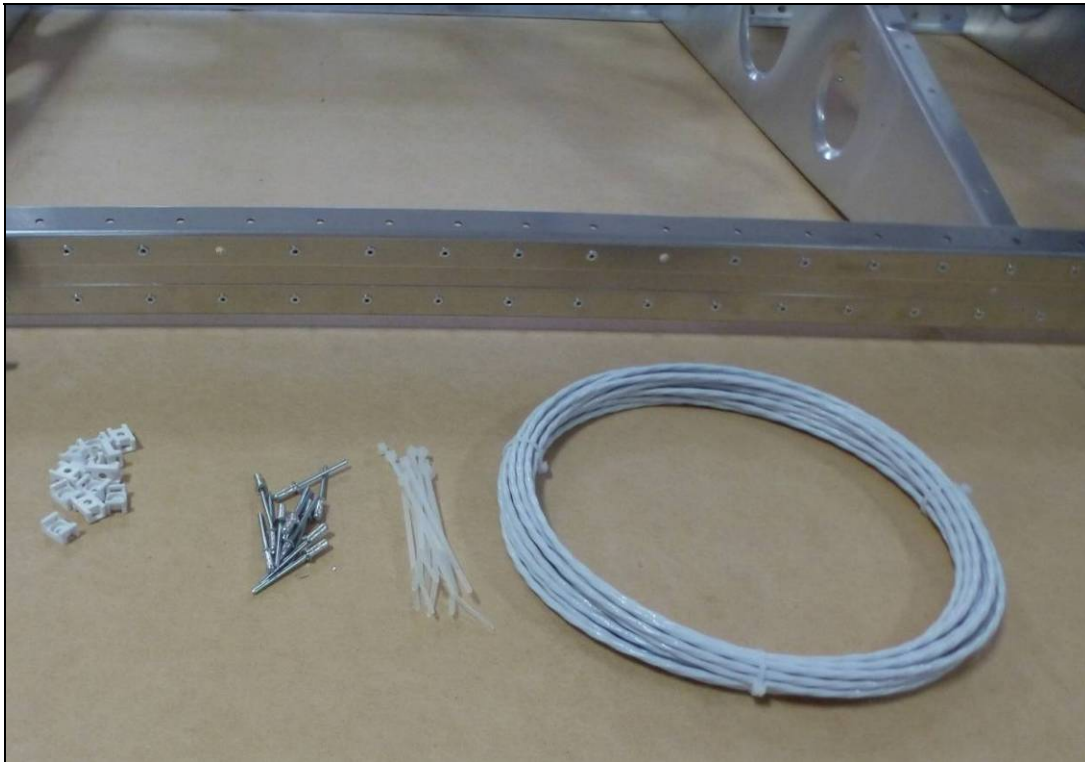


AN3 bolt through  
nose rib and spar at  
Stn. 280



A6 rivets (QTY=2)  
Root nose rib to rear  
rib through spar  
web.





**Nav/Strobe Option:**

**P/N:** 11-03987  
Cradle Cable Tie  
Mounts

**P/N:** MS27500-  
20TE3T14  
Wire Shielded  
Electrical Cable

**Note:** These parts are included in the Nav/Strobe Option Kit.



Evenly space 13 Cradle Cable Tie Mounts along the Rear Channel. They will be riveted with the existing rivet holes. Mark the holes on the Rear Channel so that you will remember to rivet the Cable Mounts when riveting the Wing Skeleton.

**Note:** The wire will be routed in a later step.





**P/N:** RD452ND  
7/16" Grommet

Route the Wire along the Rear Channel, securing it with the Cable Tie Mounts and Tie Wraps. A hole has been predrilled on the outboard end of the Rear Channel. Expand the hole to 5/16" and insert the Grommet. Route the Wire through the Grommet and leave enough Wire to connect the Nav/Strobe Light at the tip.