



**THE AIRPLANE FACTORY (Pty) Ltd, Registration no 2002/022837/07**  
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## SERVICE BULLETIN

#0010

Page 1 of 10

**The Airplane Factory (Pty) Ltd. Considers Compliance with all Service Bulletins Mandatory**

**RELEASE DATE:** 09/02/2017  
**EFFECTIVE DATE:** 09/02/2017

**SUBJECT:** Amendment to the Sling 2 and Sling 4 Series Annual Inspection

**MODELS AFFECTED:** Sling 4: All Serial numbers up to and including SN 113,  
 Sling 4 Kit: All serial numbers up to and including SN115K  
 Sling LSA, Sling 2: SN 236  
 Sling 2 Taildragger: All serial numbers up to and including SN 119,  
 147, 192  
 Sling 2, Sling LSA Kits: All Serial numbers up to and including SN 235K

**COMPLIANCE TIME:** (Repetitive) Every annual inspection

**PURPOSE:** To inspect Rib 601 within the airframe for material thickness and Cracks.

**PARTS/EQUIPMENT LIST:**

QUANTITY	PART DESCRIPTION
1	Vernier
1	3.2 mm Drill bit
1	4.1 mm Drill bit
1	Hand held drill – Pneumatic or battery operated
250	3.2 x 8mm Multigrip domed aluminium rivets
60	4.0 x 10 mm Multigrip domed aluminium rivets
1	Pneumatic rivet gun
1	2 mm Allen key
2	3/8” Spanners
1	Tube of Torque seal
1	RF-BKT-003-C-A-0
1	RF-BKT-004-C-A-0
1	RF-PLT-007-C-A-0
1	RF-RIB-601-C-A-1
125	Brass 3.2 mm Clecos

# INSTRUCTIONS

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## A. EMPENNAGE AND RIB 601 INSPECTION

1. With reference to the below pictures, the areas within the yellow boxes on Rib 601 need to be inspected. On Airplane models affected Rib 601 should first be measured for material thickness. If the rib material thickness measures 0.64mm the Service Bulletin needs to be complied with. With a material thickness of 0.8mm this Service Bulletin no longer needs to be complied with. An entry should be made in the logbook stating the Rib 601 meets the material thickness requirement and no further action is necessary.
2. Affected airplanes, the rib should be replaced at 2000 hours as a mandatory requirement, however it should be inspected annually and be replaced immediately if a crack is noticed, after which there would be no further requirement for inspection. Should the rib be satisfactory and without any cracks within the 2000 hour period an entry should be made in the logbook that this Service Bulletin has been complied with and has been found satisfactory.



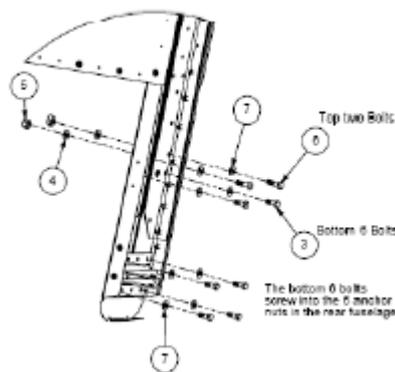
3. Should the rib fail the inspection for cracks being found, the entire rib 601 component will need to be replaced with thicker and stronger material which can be ordered through The Airplane Factory Store.
4. If the rib has failed the inspection the next steps will need to be followed in order to remove and replace the rib.
5. Using the two 3/8" spanners you will need to loosen the two bolts that attach the rudder cables to the rudder. With reference to the below picture, loosen the bolts that are within the yellow circles.



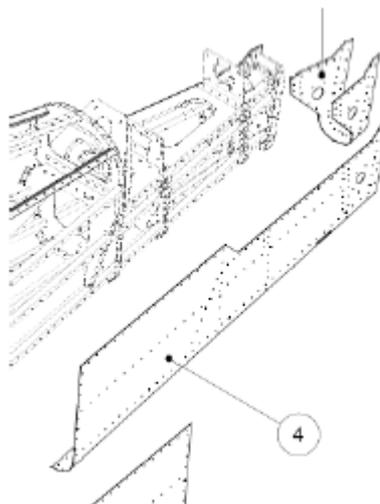
6. Once the two rudder cables have been removed, push the rudder over to either the left or right, this will enable you to loosen the three rudder hinge bolts using 3/8" spanners.
7. Using the two 3/8" spanners, loosen the three rudder hinge bolts so as to remove the rudder from the vertical fin.
8. With reference to the below picture, loosen all four bolts using the two 3/8" spanners.



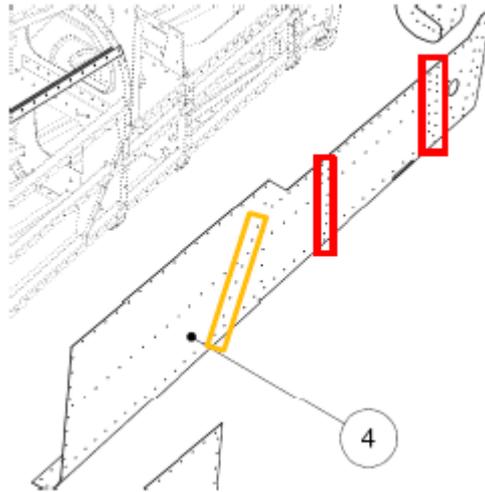
9. Remove the vertical fin so that the bolts that attach the horizontal stabiliser can be removed.
10. When looking from the back of the aircraft onto the vertical fin, the 8 bolts that attach the rear spar of the vertical fin need to be removed in order to remove the vertical fin. The picture below illustrates which bolts to remove. Before removing these bolts ensure the strobe light wire is disconnected.



11. Using the two 3/8" spanners, loosen and remove the 8 bolts that attach the horizontal stabiliser to the fuselage.
12. Remove the horizontal stabiliser from the fuselage.
13. With reference to the below picture, using a 3.2 mm drill bit and pneumatic drill, de-rivet all rivets that attach skin (4) to the fuselage as this skin in its entirety needs to be removed.



14. Once skin (4) has been removed from the fuselage, follow the line of rivets that attach rib 601 to the rest of the fuselage, de-rivet all these rivets using a 3.2 mm drill bit and pneumatic drill.
15. With reference to the below picture, follow the line of rivets illustrated in the yellow box, de-rivet all these rivets using a 3.2 mm drill bit and pneumatic drill. It should be noted that this has to be done on both sides of the fuselage. The line of rivets should flow from top to bottom going from the rear of the aircraft to the front of the aircraft in a diagonal direction. Once all the rivets that attach the rib and bracket to the fuselage have been removed, the rib and bracket should be easily removed.



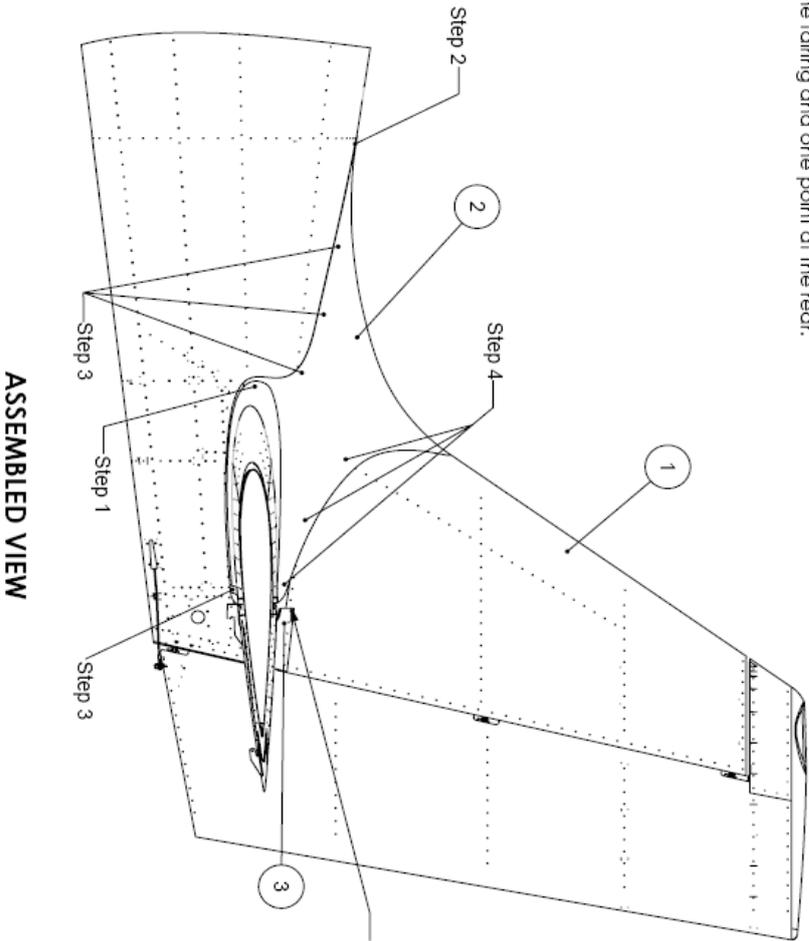
16. It should be noted that the ribs removed from the aircraft should be scrapped and never used on an aircraft again.
17. Once the new part have been assembled with reference to the rib 601 & bracket assembly page, place them in the fuselage as the previous parts were positioned.
18. Using clecos (skin grips), cleco every second hole of the rib and bracket to the side of the fuselage which has not had the skin removed.
19. Place skin (4) onto the fuselage and cleco it in place by placing clecos in every second hole.
20. Rivet each hole with 3.2 mm domed aluminium rivets. It should be noted that with reference to the above picture, the rivets in the red boxes should be rivets of 4 x 10 mm domed aluminium rivets, the exact place of these rivets can be found with reference to the rib 601 & bracket assembly instruction page, and these parts are labelled 3 & 4.
21. Remove all the clecos and rivet all the open holes where the clecos were. Ensure the correct rivets are used in the correct places, refer to step 20.
22. Attach the horizontal stabiliser to the fuselage by means of tightening all 8 of its bolts to the mounting brackets of the fuselage. These bolts need to be torqued to a value of 2.0 – 2.7 NM or 1.475 – 1.991 ft.lb and torque seal applied over all 8 of these bolts.
23. Attach the vertical fin by means of tightening all 12 bolts to the mounting brackets on the fuselage. These bolts are to be torqued to the value of 2.0 – 2.7 NM or 1.475 – 1.991 ft.lb and torque seal applied over all 12 of these bolts.
24. Attach the rudders by means of tightening all 3 bolts through the rudder hinges. These 3 bolts should be torqued to the value of 2.0 – 2.7 NM or 1.475 – 1.991 ft.lb and torque seal applied to all 3 bolts.
25. Connect the strobe light wire and verify that the strobe is serviceable.
26. Using the two 3/8" spanners attach the rudder cables by means of tightening both bolts at the connection points. These bolts need to be torqued to the value of 2.0 – 2.7 NM or 1.475 – 1.991 ft.lb and torque seal applied over these bolts.
27. Attach the empennage fairing by means of tightening all the screws using a 2 mm Allen key.

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	Rear fairing mounting		1
2	Rear Fillet		1
3	RF-SKN-008-L-A-0	Empennage control cover	1
4	RF-SKN-008-R-A-0	Empennage control cover	1

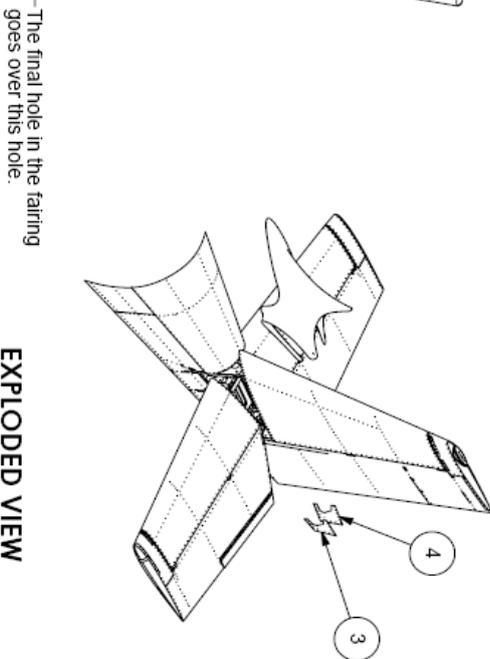
**Step 1**  
 Hold the fairing in place ensuring that the fairing fits snugly against the leading edge of the horizontal stabiliser. Make a hole in the fairing and fuselage in front of the leading edge of the horizontal stabiliser. Mark it on the fairing and drill through with a Ø3mm bit. (Take the fairing off the plane first to avoid damaging the point)  
 Enlarge the hole in the fuselage with a Ø4.9mm bit and fit an M3 Rivnut.

**Step 2**  
 Follow the same procedure at the front of the fairing.

**Step 3**  
 Secure the fairing using this procedure at several points along the front of the fairing and one point at the rear.



**Step 4**  
 Repeat the procedure along the vertical stabiliser, ensuring that the fairing sits tight against the vertical stabiliser.  
**NOTE:** The final hole in the fairing must go over the 5th rivet hole from the back of the vertical stabiliser which has already been fitted with a rivnut.



The final hole in the fairing goes over this hole.

Put this plate in place under the fairing. Hold in place using M3 buttonhead screws and the rivnuts fitted in the vertical stabiliser and fuselage.

DESCRIPTION	pg FK9
<b>MOUNTING OF REAR FAIRING</b>	
Sing 2	Date:2015/07/08   Revision: 0

Figure 1: Mounting of rear fairing

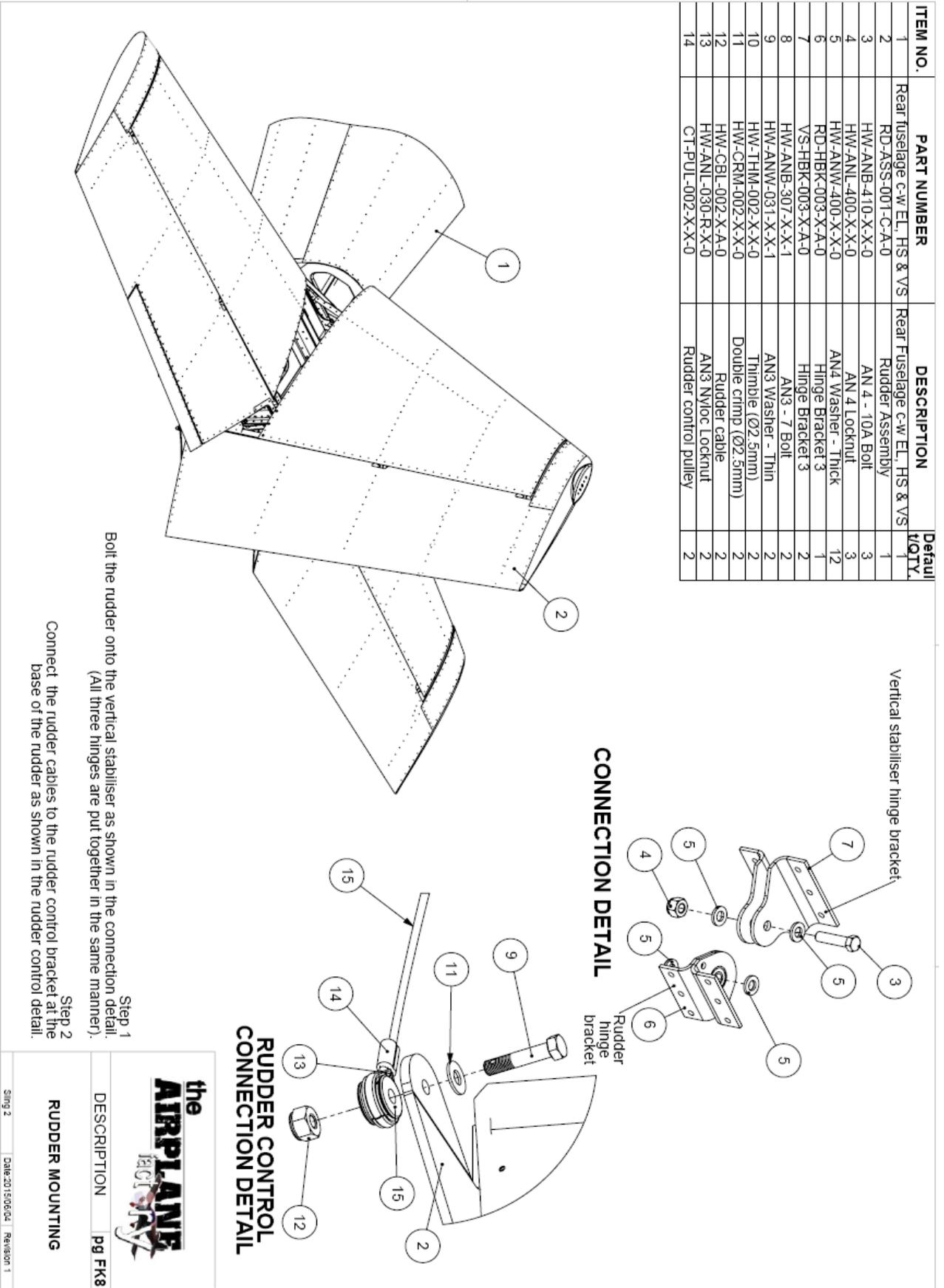


Figure 2: Rudder Mounting

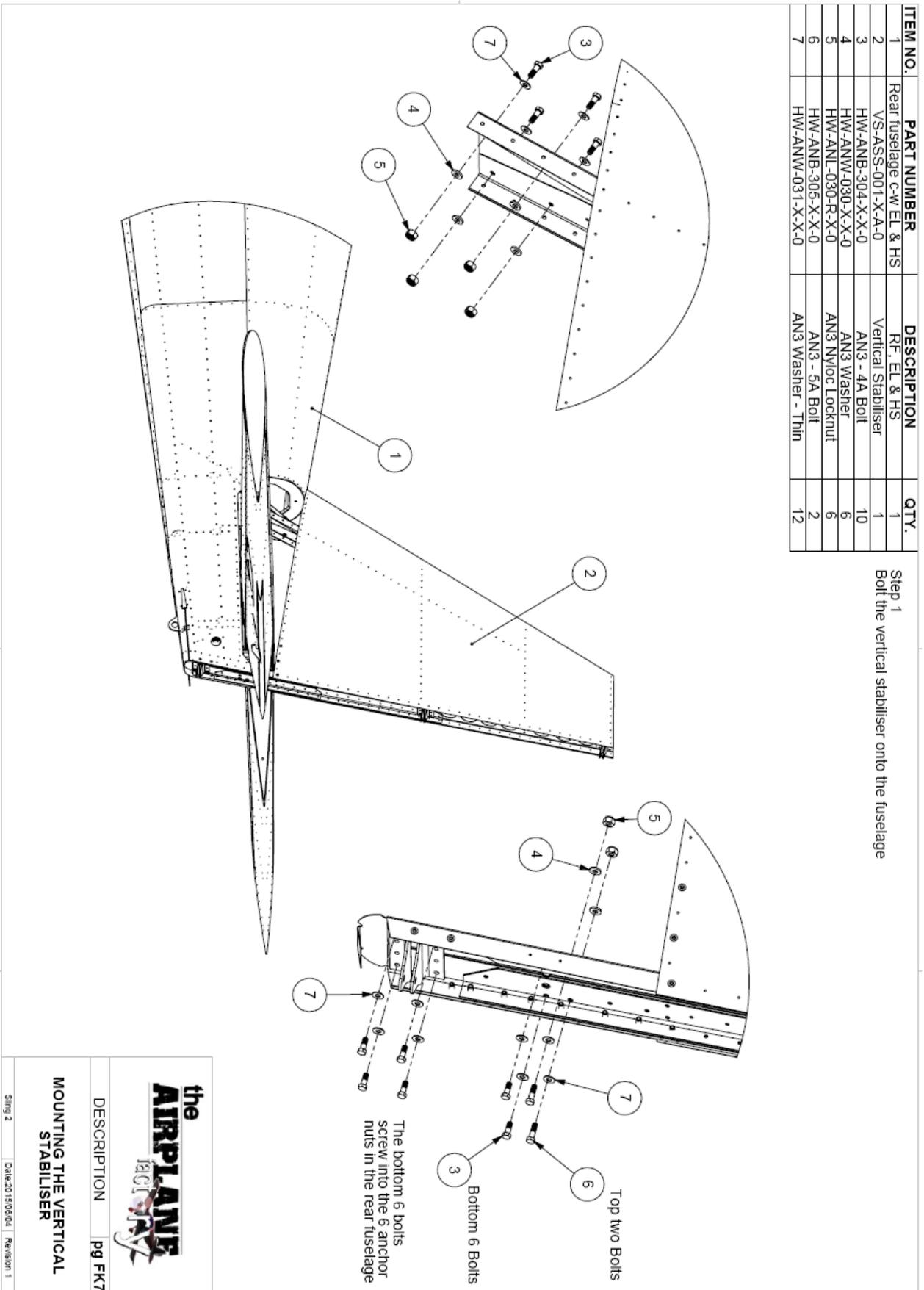
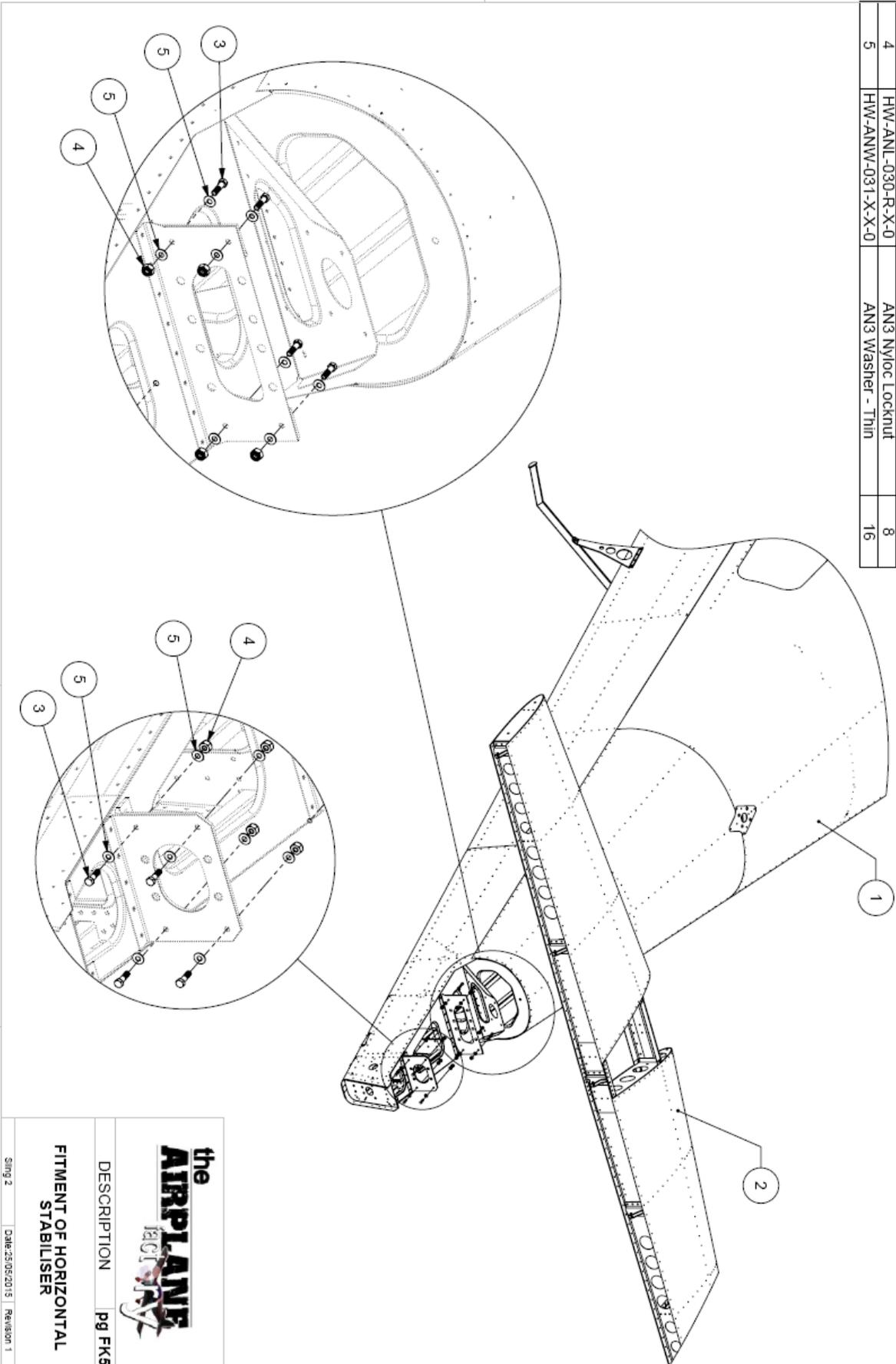


Figure 3: Mounting the vertical stabiliser

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	RF-ASS-001-X-A-0	Rear Fuselage	1
2	HS-ASS-001-X-A-0	Horizontal Stabiliser	1
3	HW-ANB-305-X-X-0	AN3 - 5A Bolt	8
4	HW-ANL-030-R-X-0	AN3 Nyloc Locknut	8
5	HW-ANW-031-X-X-0	AN3 Washer - Thin	16

Step 1  
Hold the horizontal stabiliser in place, then bolt all the parts together as shown.



**the AIRPLANE FACTORY**

DESCRIPTION: FITMENT OF HORIZONTAL STABILISER  
pg FK5

Sing 2 | Date:25/05/2015 | Revision 1

Figure 4: Fitment of horizontal stabiliser

ITEM NO.	PART NUMBER	DESCRIPTION	QTY
1	RF-SKN-004-R-A-0	Side Skin - Right	1
2	RF-SKN-004-L-A-0	Side Skin - Left	1
3	RF-SKN-005-R-A-0	Rear Side Skin - Right	1
4	RF-SKN-005-L-A-0	Rear Side Skin - Left	1
5	RF-SKN-006-C-A-0	Rear Cover Skin	1
6	RF-SKN-007-C-A-0	Rear Bottom Skin	1
7	RF-LGN ASS-201-R-A-0	Right longeron 2 Assembly	1
8	RF-LGN ASS-101-C-A-0	Longeron 1 Assembly	1
9	RF-LGN ASS-201-L-A-0	Left longeron 2 Assembly	1

**Step 1**  
Fit items 7, 8 & 9 in place into the slots in the ribs and hold them in place temporarily using small tie wraps. Note orientation. (see detail below)

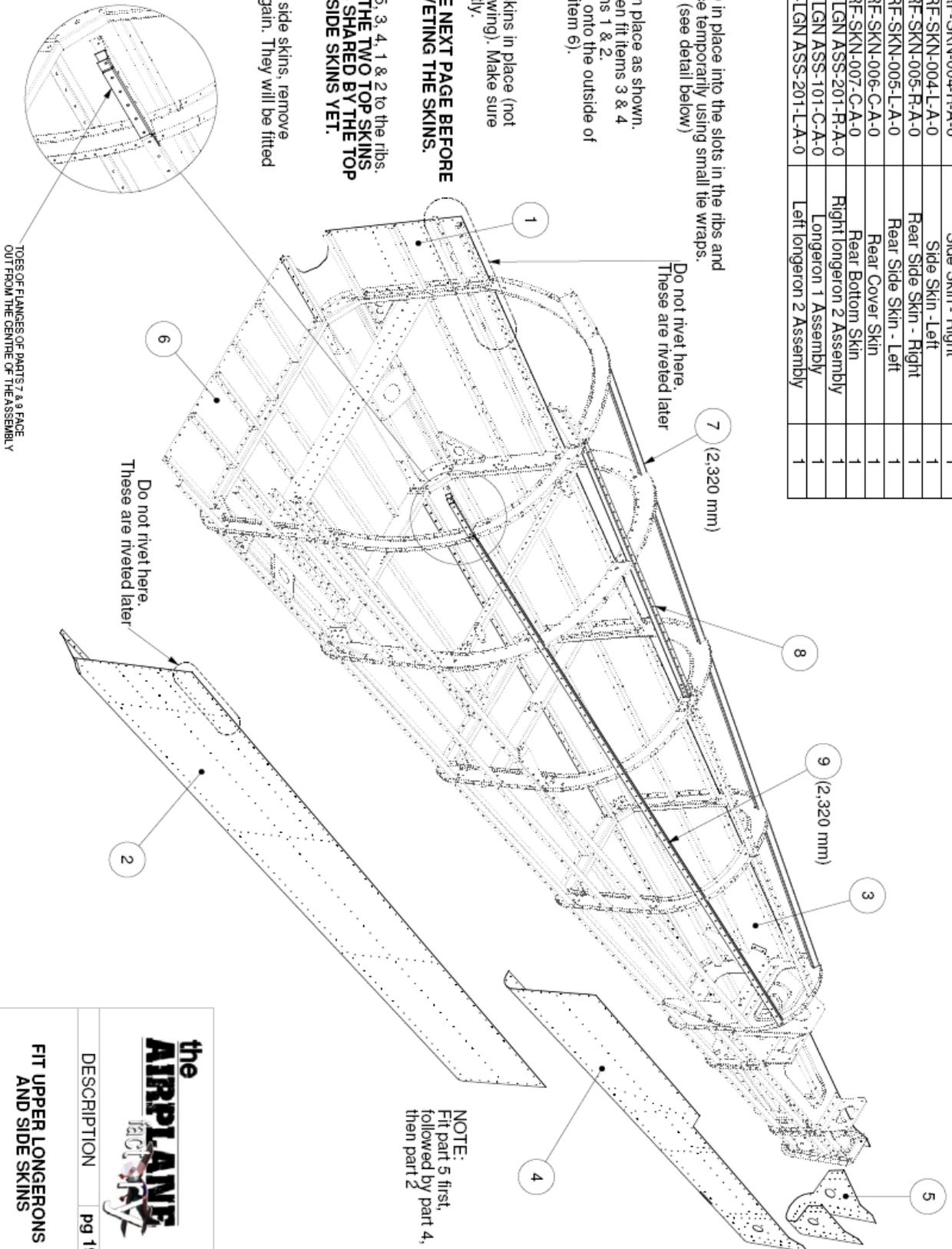
**Step 2**  
Cleave the skins in place as shown. Fit item 5 first, then fit items 3 & 4 and finally fit items 1 & 2. The side skins fit onto the outside of the bottom skin (item 6). Do not rivet yet.

**Step 3**  
Cleave the top 2 skins in place (not shown in this drawing). Make sure they all fit perfectly.

**NB: CHECK THE NEXT PAGE BEFORE YOU START RIVETING THE SKINS.**

**Step 4**  
Rivet side skins 5, 3, 4, 1 & 2 to the ribs. **DO NOT RIVET THE TWO TOP SKINS OR THE HOLES SHARED BY THE TOP SKINS ON THE SIDE SKINS YET.**

**Step 5**  
After riveting the side skins, remove the 2 top skins again. They will be fitted later.



**the AIRPLANE FACTORY**

DESCRIPTION | pg 19

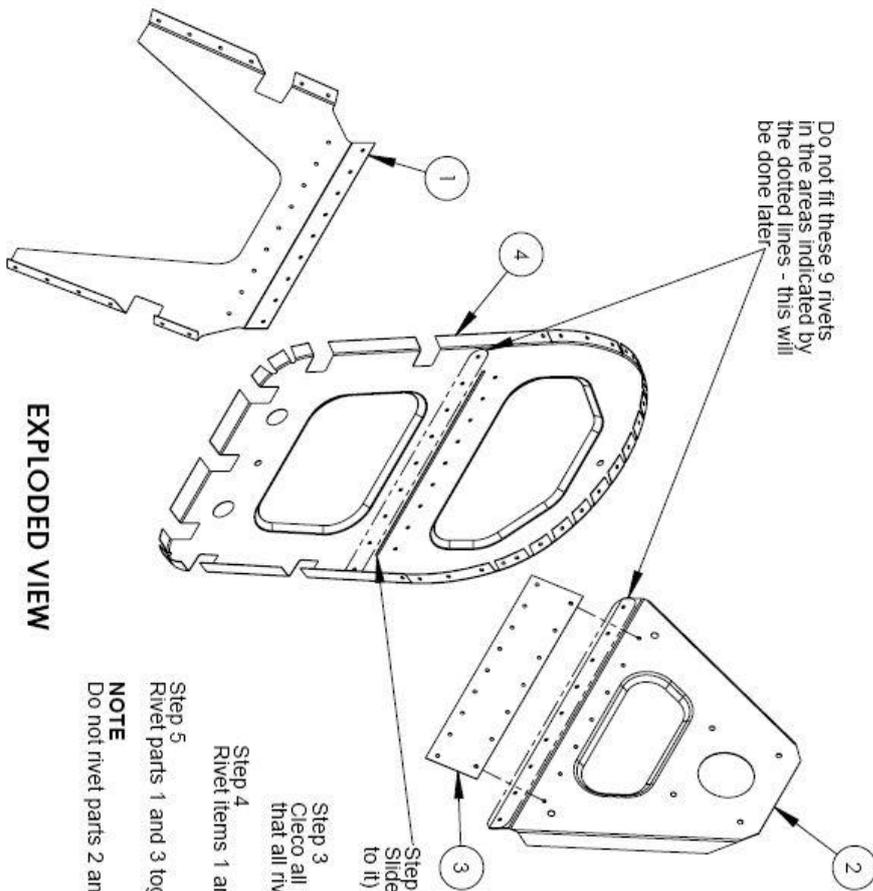
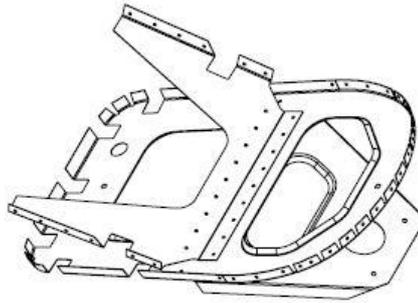
**FIT UPPER LONGERONS AND SIDE SKINS**

Sling | Date:2012/07/10 | Revision: 0

Figure 5: Fit upper longerons and side skins

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	RF-BKT-003-C-A-0	Bracket	1
2	RF-BKT-004-C-A-0	Bracket	1
3	RF-PLT-007-C-A-0	Plate	1
4	RF-RIB-601-C-A-1	Rib 601	1

**ASSEMBLED VIEW**



**EXPLODED VIEW**

- Step 5  
Rivet parts 1 and 3 together.
- Step 4  
Rivet items 1 and 4 together.
- Step 3  
Cleco all parts together and make sure that all rivet holes line up correctly.
- Step 2  
Slide part 3 (part 2 is already riveted to it) through the slot.
- Step 1  
Cleco and then rivet parts 2 and 3 together.

**NOTE**

Do not rivet parts 2 and 4 together - this is done later.

**NB:**  
Only 3.2 x 8mm rivets to be used in this assembly.



DESCRIPTION | pg F4

**RIB 6 ASSEMBLY**

Sheet 2 | Date:2015/05/26 | Revision 1

Figure 6: Rib 6 assembly