



- MANUFACTURERS OF WIPLINE FLOATS & SKIS
- SPECIALISTS IN AIRCRAFT MODIFICATION

1700 Henry Avenue - Fleming Field  
South St. Paul, MN 55075  
651-451-1205

## **SERVICE KIT: #50**

**DATE ISSUED:** May 26, 2005 **Rev. A (revised 6-9-05)**

**SUBJECT:** 802 Air Tractor Float Longeron and Float Bracket Repair

**MODEL:** Floated AT-802 Air Tractors

### **INSTRUCTIONS:**

Procedures for cracks dictated by Service Letter #71 to be repaired by welding. **This kit is issued with an option A and an option B. Option A is the preferred repair, Option B is also acceptable.**

1. Remove floats.
2. Drain fuel.
3. Remove fairings and fuel selector valve.
4. Plug all hoses and fuel openings.
5. Clean and dry all fuel from the area.
6. Cut openings in fairings and fabricate new screw-on covers or use Service Kit #51.
7. Remove Aluminum float attachment block.
8. Reshape both front and rear gussets as shown in Option A or Option B using drawings p/n 10A02491-006 and 10A02491-005 as a pattern.

Note:

With Option A the rear gusset is completely removed.

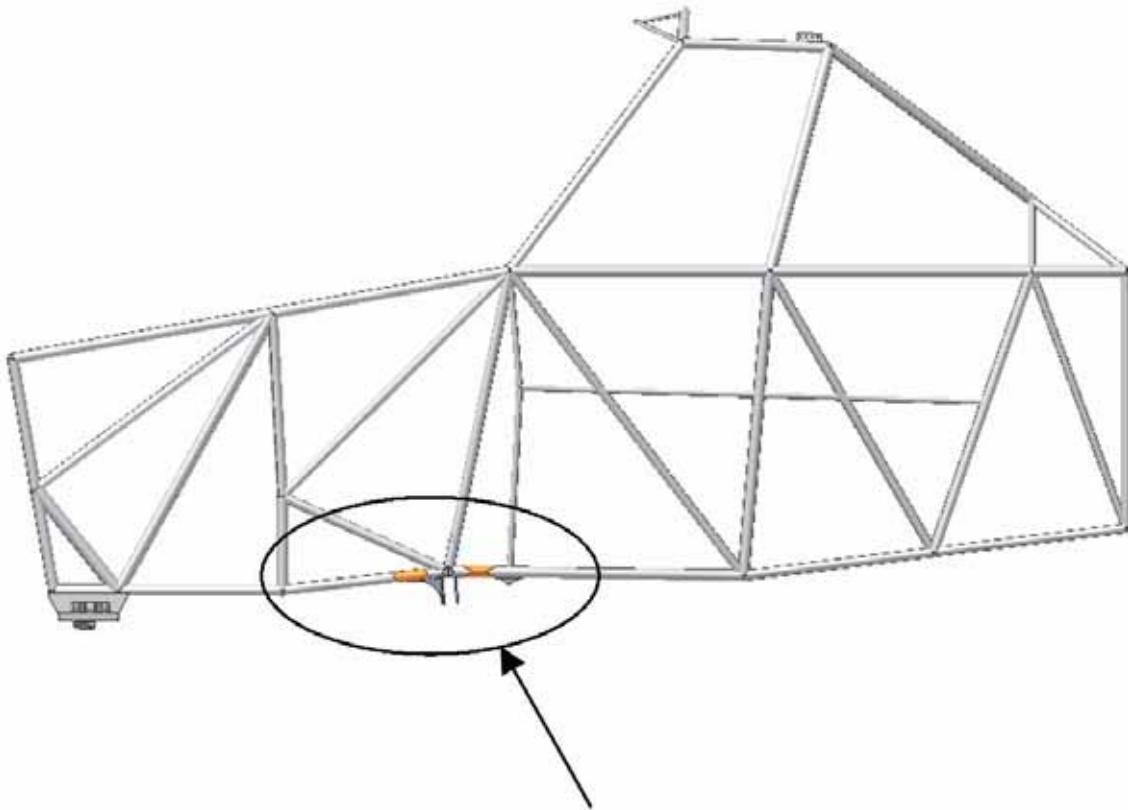
9. Strip paint in all areas requiring welding or stress relieving.
10. Fill fuel tanks or provide other means of safety for welding near fuel tanks.
11. Fit rear sleeves into place and then trim one side of sleeve to maintain ½ inch clearance from Tube 2 (Fig. 3, Area 1) Add sleeves (Wipaire p/n 1001536 or Air Tractor p/n 11072) and weld onto longeron (Fig. 2, area 5).
12. If cracks were found in Area A of Figure 2 in Service Letter #71, fit front sleeves into place (Option A, Air Tractor p/n SK574-3) and weld onto longeron.
13. If cracks are found on the ends of the attach plates (Fig. 4, area 4), cut the attach plates back to a location over the bottom doubler on the cluster (Fig. 4, areas 1 & 4). Re-weld attach plates to the doubler and wrap the weld around the inside ¼ to ½ inch.
14. Stress-relieve areas at ends of the gussets and welded areas.
15. Clean, prime and paint areas that have been stripped or where the paint has been chipped or damaged.
16. Reassemble.

Accomplish all welding and stress relieving as per included instructions from Air Tractor



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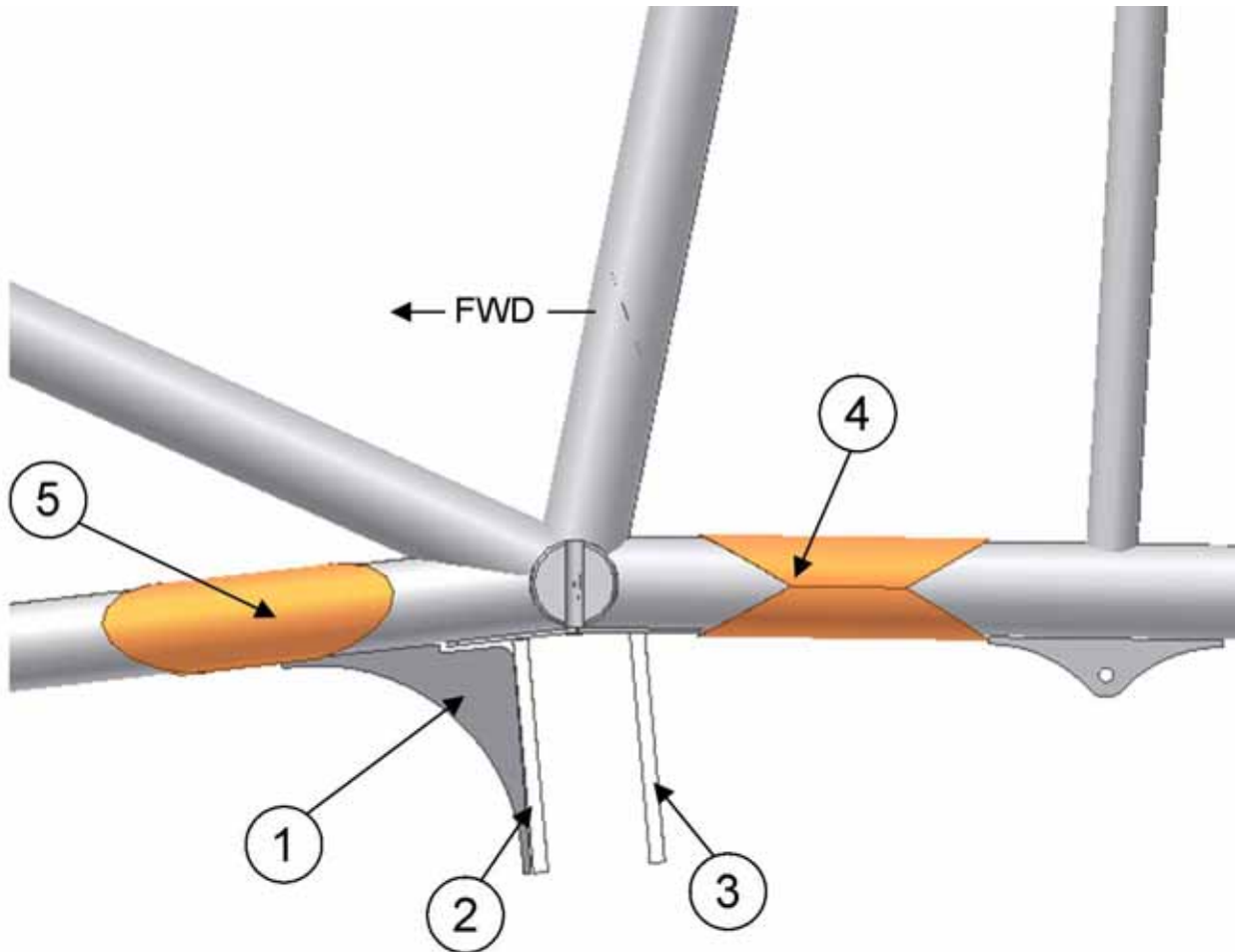
Affected Area

Figure 1



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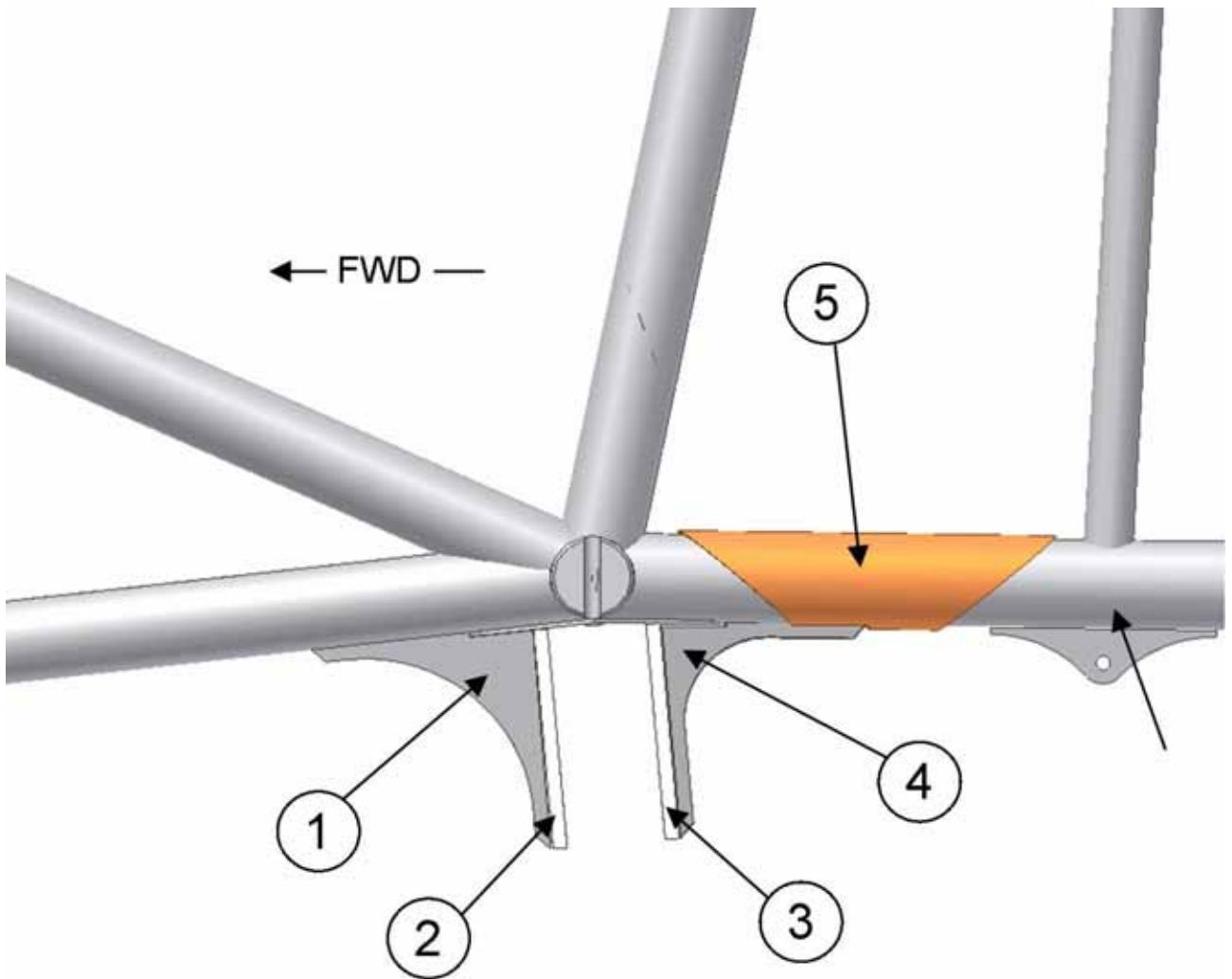


Option A  
Figure 2



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Option B  
Figure 2



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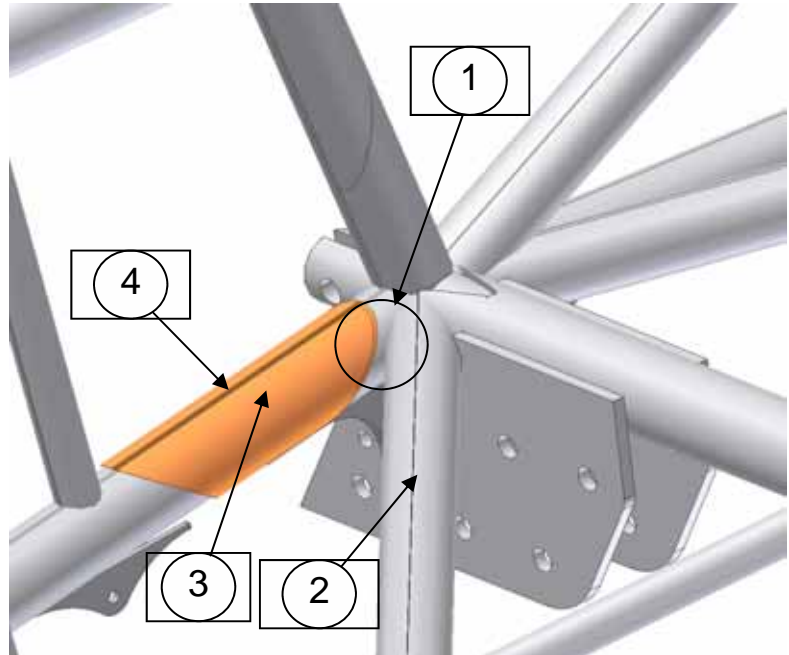


Figure 3

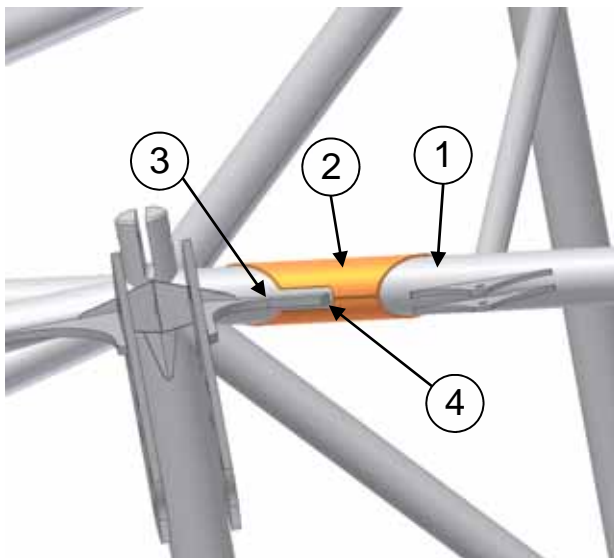


Figure 4



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02/17/2000 10:20:20 AM STW 002 0011 848 8481000

SNOW ENGINEERING CO. Wichita Falls, Texas		ENGINEERING REPORT <input checked="" type="checkbox"/> ORDER <input type="checkbox"/>	NUMBER 120
TITLE  PROCESS SPECIFICATION	BY Leland Snow	CHK'D	MODEL
	DATE 6-2-03		SERIAL
			PAGE 1 OF 1

#### WELDING 4130N STEEL

1. Factory welding is accomplished with a heli-arc (Miller) welding machine. A foot control is used to control amperage within a given range, and Argon is used to shield the arc.
2. Welding rod used is 1/16 to 3/32 dia No. 1 H.T. This is black in color, the AWS spec is A5.2 and its classification RGG0 or R60. Alternate welding rod is ER70S-2 (first option) or ER70S-6 (second option) or ER80S-D2 (third option). Any diameter welding rod may be used, as the thickness of the material being welded dictates the rod diameter. These numbers are generally present on the shipping container.
3. Welding rod is stored in a container that prevents build-up of moisture. Rust on the rod has to be sanded off before use.
4. Welds are to be smooth and uniform. Undercut is to be avoided as well as burn-through. Pin holes will require welding over, as there will be leaks when the structure is oiled internally. Sufficient filler should be added to provide the proper fillet.
5. Surfaces to be welded should be free of grease, oil, or other contaminants. A wire brush is sometimes required if there is rust or residue present.
6. Tubing clusters should have fits such that gaps between parts should not exceed 1/8" for tubes up to .083 wall thickness, and should not exceed 3/16" for tubes having .120 wall or greater. Larger gaps are permissible if the gaps are for no more than 25% of the perimeter of the tube, and the welder is confident that filling the gap can be done easily.
7. Welders are to be certified, and are to weld clusters for testing purposes every 12 months. See 4 & 5 of P.S. 121.
8. Welders are to be classified as Production welders or Trainees. Production welders are to weld primary structure or any other parts, as long as the material welded is the same type that was used in their certification test. Trainees may not weld primary structure, but can weld non-critical parts that are approved by Engineering. The Q.C. manager is to closely control the selection of parts welded by Trainees.

SNOW ENGINEERING CO. Wichita Falls, Texas		ENGINEERING REPORT <input checked="" type="checkbox"/> ORDER <input type="checkbox"/>	NUMBER 125
TITLE PROCESS SPECIFICATION	BY Leland Snow	CHKD	MODEL
	DATE 11/28/93		SERIAL
			PAGE 1 OF 1

STRESS RELIEVING-TORCH

1. Parts too large for oven stress relieving may be stress relieved with a torch. This would include certain clusters in the fuselage frame that have high or repeated loads.
2. A heating tip is installed on the welding torch and a fairly large flame with a slight feather edge is established. The cluster is heated gradually by moving the torch over the entire surface as rapidly as possible so that the cluster heats up as a unit. When the weld areas and the surrounding metal is just starting to turn red, the correct temperature has been reached, and heating should be discontinued. Avoid overheating to cherry red, or heating in spots.
3. When the correct temperature has been reached, allow the cluster to cool gradually at room temperature.