



SERVICE LETTER NUMBER 146			
TITLE: 13000 BULKHEAD #6 CRACK REPAIR			
BY: C. SCHLEMMER	AIRCRAFT MAKE/MODEL(S):	FLOAT MODEL(S):	NOTE(S):
APP: J. SORTOR	DEHAVILLAND TWIN OTTER	13000	COMPLIANCE OPTIONAL S/L P/N 1006027 ECO 24031
DATE: 04/03/15			
REV: B			

FAA APPROVAL HAS BEEN OBTAINED FOR TECHNICAL DATA IN THIS PUBLICATION THAT AFFECTS STC OR TSO DESIGN COMPLIANCE

EFFECTIVITY:

This service letter applies to all Wipline model 13000 Amphibian and Seaplane Floats S/N 13188(A or S) and below. Subsequent S/Ns incorporate changes in production to preclude cracking. Option 2 can be applied to all S/Ns that experience warping or cracking of the bulkhead main panel after installation of option 1 below has been accomplished or S/N 13189 and on.

COMPLIANCE

Service letter compliance as needed to repair cracks in 13A01000-190 RH and/or 13A01000-243 LH Bulkhead #6 Assemblies. It is acceptable to apply the service letter proactively to floats that do not exhibit cracks.

BACKGROUND:

Crack appears on 13A01150-052 Bulkhead Body originating from the top rivet hole in the 13A01359-164 LH and 13A01359-165 RH Sister Keel Angle Attach just below the 13A01160-003 LH and 13A01160-004 RH Upper Strut Fitting Panel requiring repair. This kit includes necessary parts to repair and restore integrity of bulkhead.

The second option is intended to repair the body of bulkhead #6 consisted of removing the damaged upper portion and replacing it with a new upper portion, connecting the original lower portion to the new upper portion with a riveted single overlap splice.

COMPLIANCE METHOD:

Install the parts included in this service letter in accordance with the instructions in the Technical Data section of this service letter and Float Service Manual.

APPROX. SHOP HOURS:

This service letter will take approximately 10-12 labor hours to complete option 1 and 6-8 labor hours to complete option 2.

WARRANTY INFORMATION:

This service letter does not include any warranty labor or parts.

TECHNICAL DATA:

Copies of this service letter, service kit, float manual, repair drawing, and float parts manual are available on www.wipaire.com.

See drawing below for details on performing the crack repair.

See Table 1 below for list of parts used for Option 1 repair.

See Table 2 below for list of parts used for Option 2 repair.

SERVICE PROCEDURES:

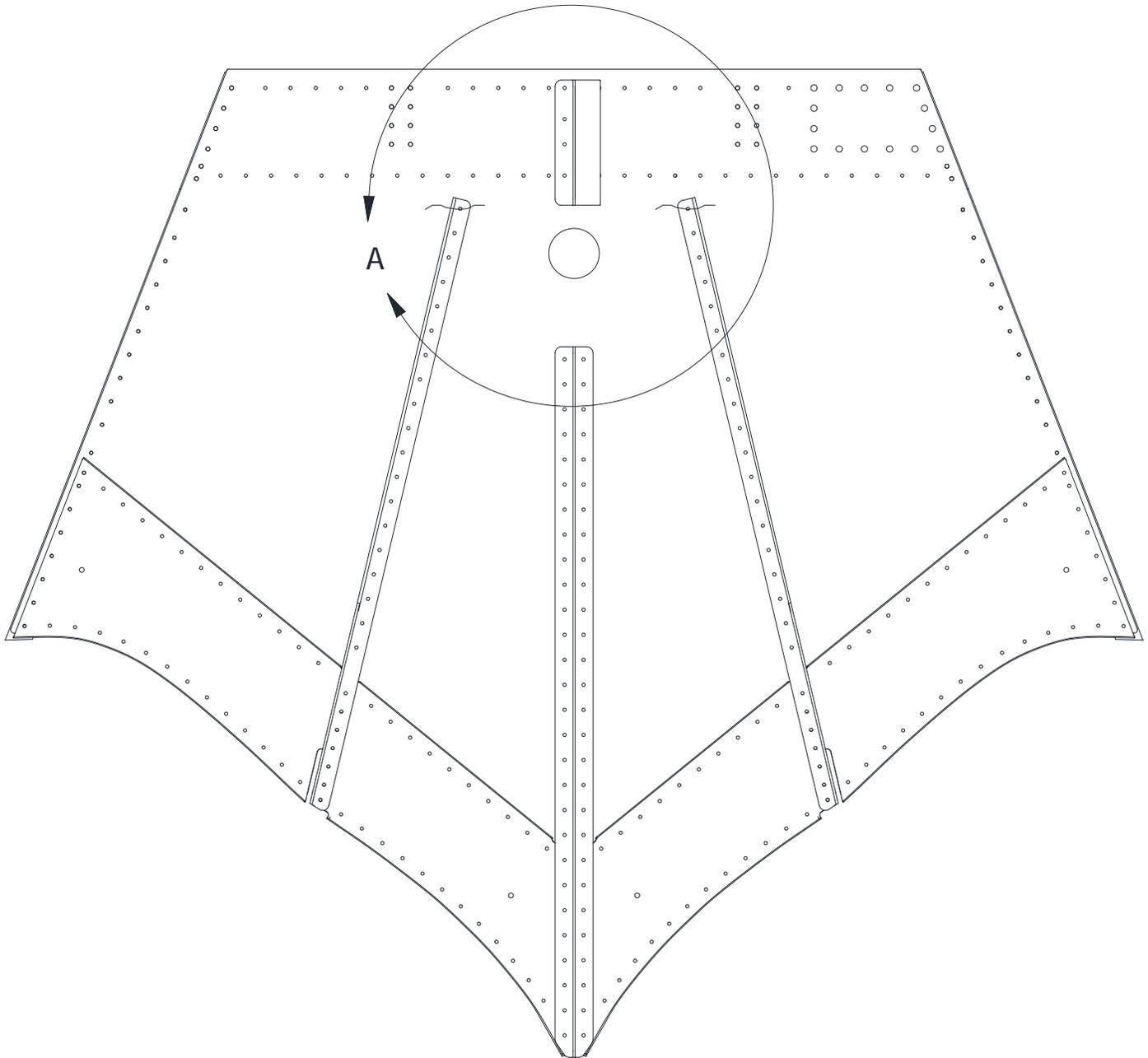
Option 1

1. Secure airplane safely first before following the procedures for repair.
2. Jack up the main gear until the tire is not in contact with the ground. (refer to Float Service Manual Section 4.0)
3. Remove second and third top covers from the front to access 13A01000-190 or -243 bulkhead #6 assembly.
4. Drill out top 7 rivets of 13A01359-165 and -164 sister keel angles and cut off angles as shown in drawing.
5. Drill out remaining rivets in boxed area as shown in Detail A drawing.
6. Trim bulkhead material to completely remove crack. Radius corners of trimmed area to 0.5" minimum. Maintain minimum distance of 3 times the diameter size from rivet line.
7. Place 1006021 patch and 1006020 RH and 1006035 LH angle onto bulkhead panel and line up holes then rivet the parts to the panel using MS20470AD Rivets.
8. Match drill remaining holes from 1006021 patch and 1006020 RH and 1006035 LH angle to the panel.
9. Complete the riveting of the parts using MS20470AD Rivets.
10. Apply sealant around patch edges.
11. Reinstall access covers.



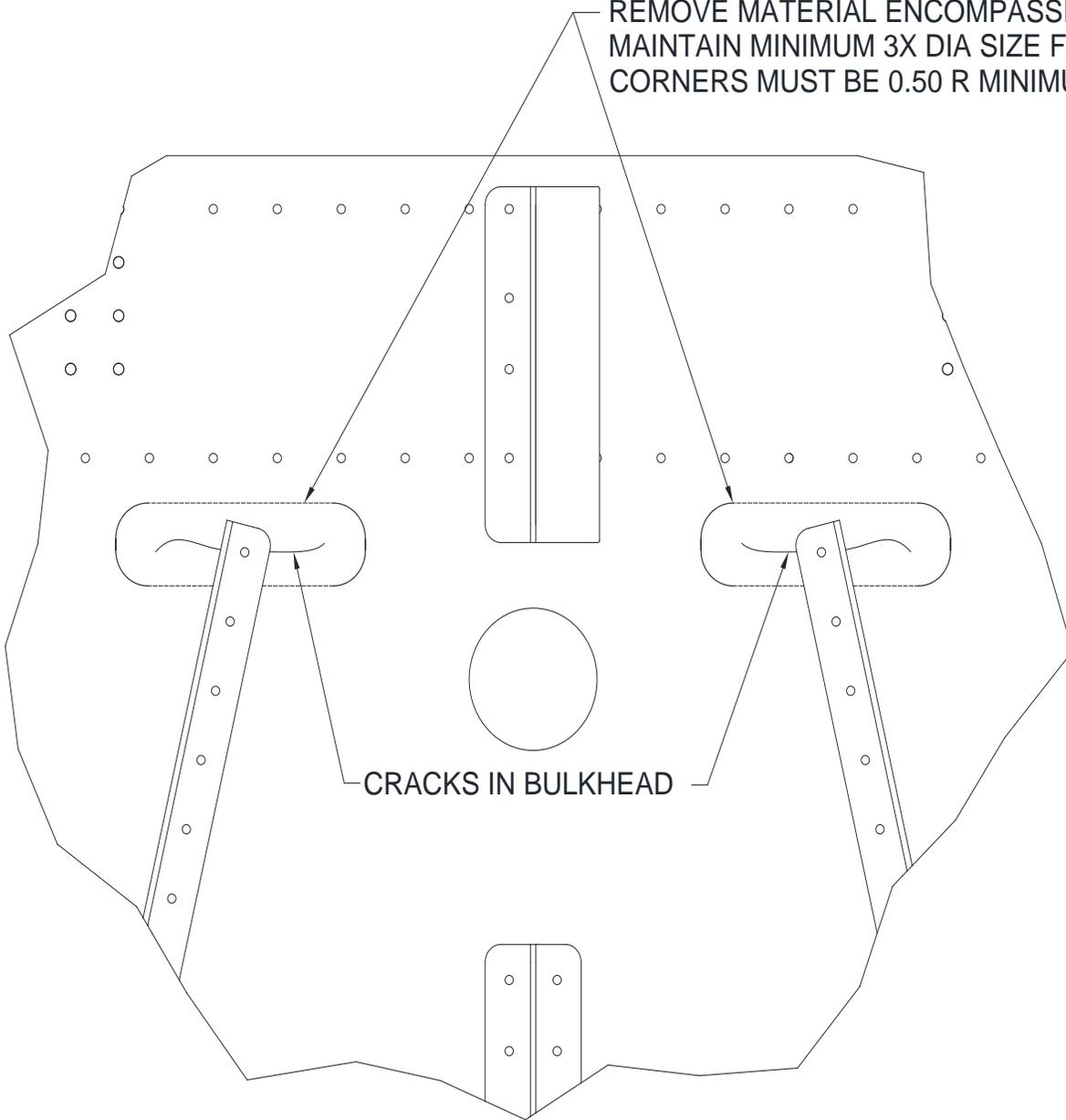
12. Lower float on main gear and repeat the procedure if needed on the opposite float.

TABLE 1			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	1006020	ANGLE, PATCH, RH
2	2	1006021	PATCH
3	1	1006035	ANGLE, PATCH, LH

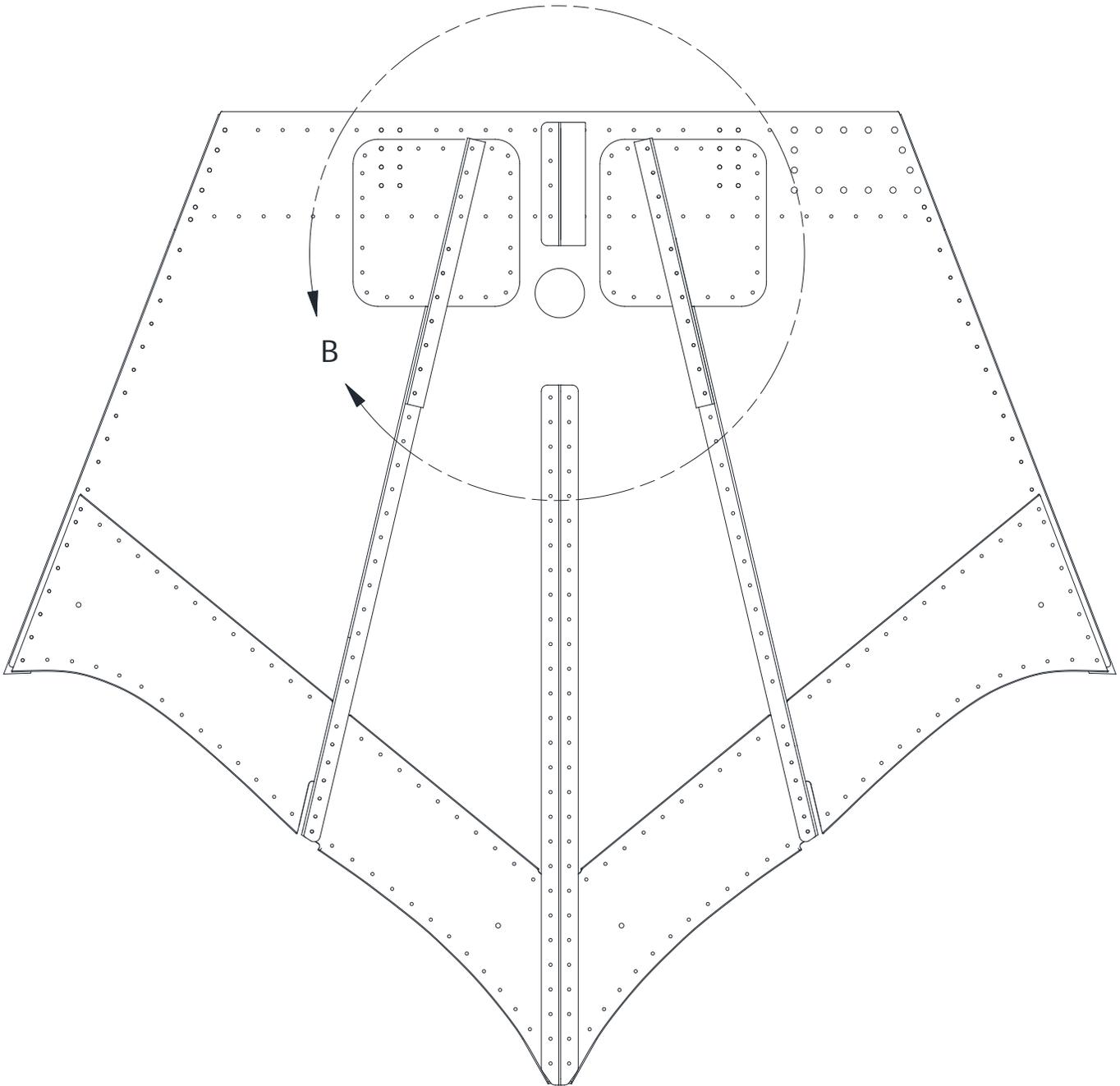


13A01000-190
BULKHEAD #6 ASSY, RH
(AS SHOWN BEFORE REPAIR)

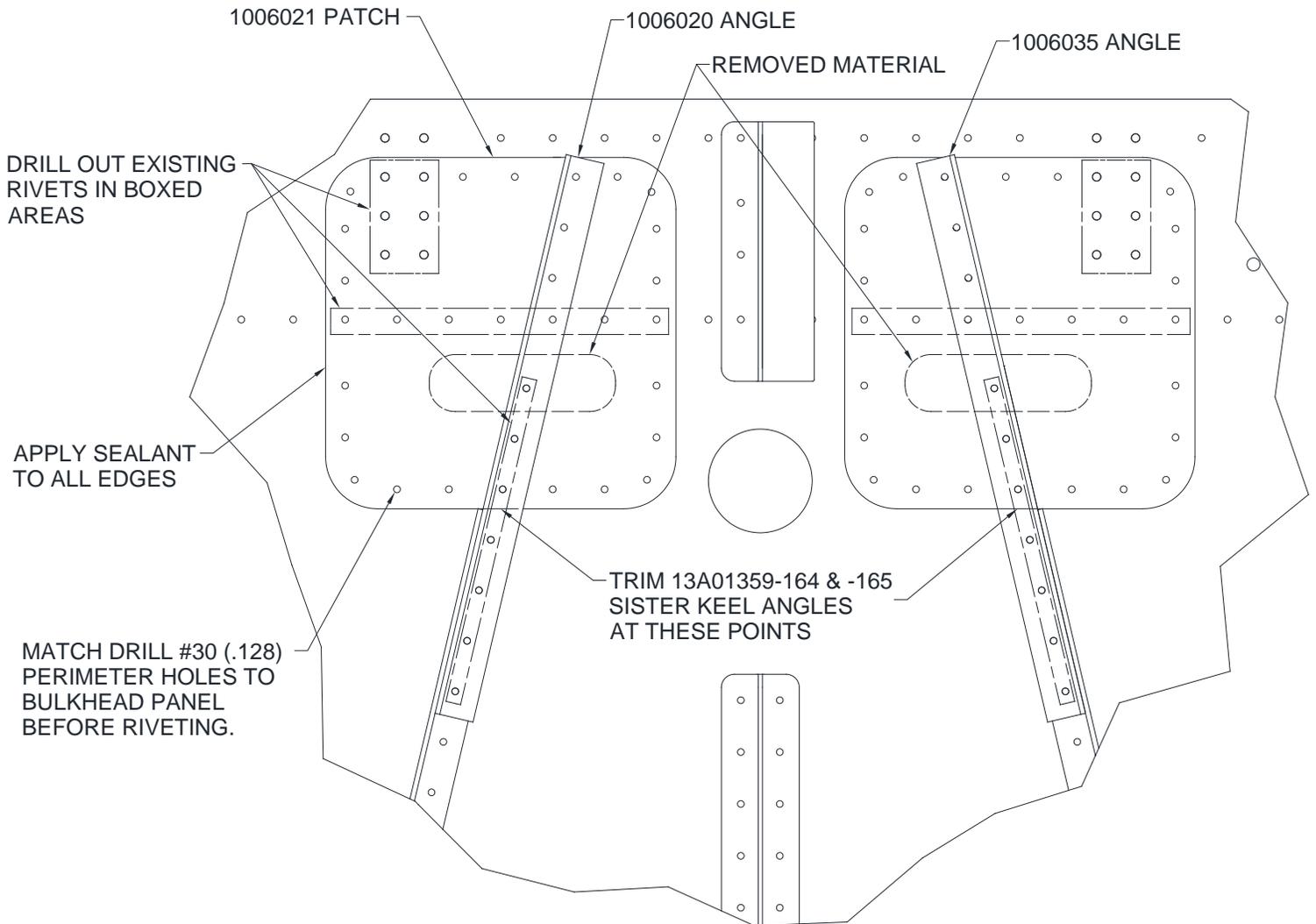
REMOVE MATERIAL ENCOMPASSING CRACKS.
MAINTAIN MINIMUM 3X DIA SIZE FROM RIVET LINE.
CORNERS MUST BE 0.50 R MINIMUM.



DETAIL A



13A01000-190
BULKHEAD #6 ASSY, RH
(AFTER REPAIR)



DETAIL B
13A01000-190
BULKHEAD ASS'Y

Bulkhead Repair

Option 2

The bulkhead repair should be conducted as follows:

1. Secure airplane safely first before following the procedures for repair.
2. Jack up the main gear until the tire is not in contact with the ground. (refer to Float Service Manual Section 4.0)
3. Remove required internal stiffeners, side skin attach arms, and top rail attach angle attached to bulkhead #6 as required to complete step 2.
4. Remove the damaged upper portion of the bulkhead body in location indicated by Figure 1.
5. Replace upper section of bulkhead with an upper portion from a new bulkhead body (Wipaire part number 13A01150-052), creating an overlap splice with the original lower section of the bulkhead body as indicated in Figure 1.
6. Reinstall all stiffeners and attach angles using “as designed” rivets, locations and sizes, except in the location of the overlap splice in the bulkhead body. At the splice location, install MS20470AD5 rivets, in original position, length as required. This requires upsizing the holes in the attach angles and stiffeners in the location of the splice; specifically 3 holes in each, except the center “T” section, which will have 6 holes up-sized.
7. Install an additional 96 MS20470AD5 rivets (length as required) in the splice of the bulkhead body as indicated in Figure 1: 11 columns of 3 between the side skin attach arm and the sister keel attach angle on both sides of the bulkhead body; and 5 columns of 3 between the sister keel attach angle and the center “T” section, on both sides of the bulkhead. For the additional 96 rivets, the spacing is defined in Figure 2.
8. Apply sealant around patch edges.

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	13A01150-052	BULKHEAD, BODY, PANEL

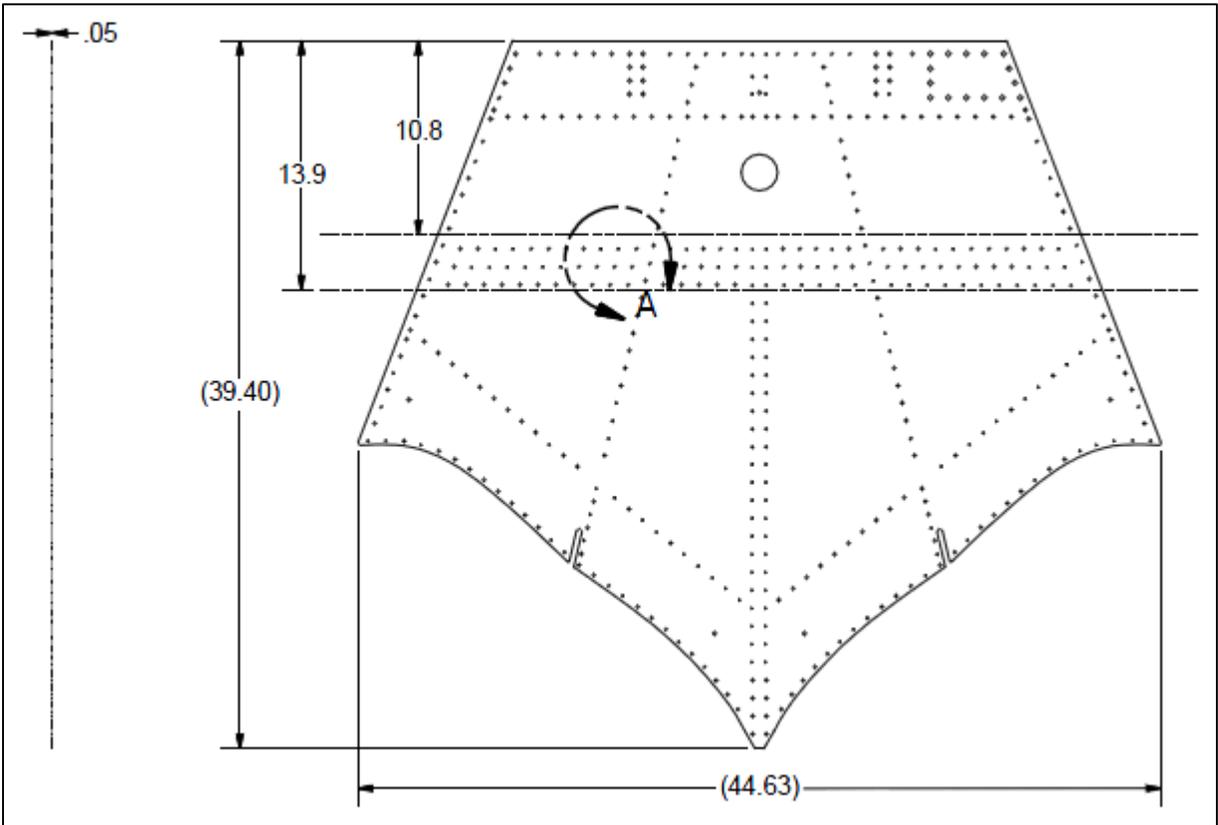


Figure 1 – Bulkhead Splice Repair

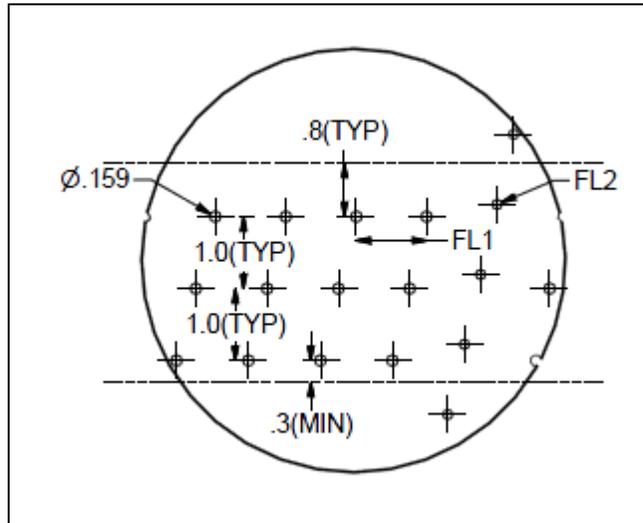


Figure 2 – Bulkhead Splice Repair – Detail A

Notes (Figure 1 and Figure 2):

- FL1: Position rivet columns adjacent to stiffeners and attach flanges 0.8 (TYP) from the edge of the stiffener or attach flange. Provide equal horizontal spacing between the remaining required intermediate rivets. Final horizontal spacing dimensions shall be between 0.7 – 1.0” for the intermediate rivets.
- FL2: Maintain original rivet location in bulkhead body and all stiffeners, except upsize holes in spliced area to accommodate MS20470AD5 rivets (diameter 0.159”).

END