SIKORSKY
A LOCKHEED MARTIN COMPANY

S-92

DRB 2017-SA-92-081

Repair of Cracks Found in Float Bottle Support Brackets

SIKORSKY AIRCRAFT DESIGN RECORD BOOK

Record NO:

Prepared by	Steve Morgan	DRB No:	2017-SA-92-081
Title	Repair of Cracks Found in Float Bottle Support Brackets		
Start Date:	8/4/2017	Detail Dwg	
End Date:		Assy Dwg	
No. Pages:		Related Documents: (1)	(3)
Model:	S-92A	(2)	(4)
Keyword: (1)	Float Bottle (2) Crack	Hours:	
(3)	Support Bracket	Model Effectivity:	S92A
Supersedes:		FEM Analysis:	
Analysis Type	Repair	Charge No:	
Reason for Analysis	Field Support	Superseded By:	

Description:

This document provides a repair for cracking damage found on the 92202-05126 or 92202-05132 Float Bottle Support Brackets.

Results:

Repair with the procedure documented in this DRB.

The repair procedure is specified in this DRB, and for FAA purposes, this repair is considered "MINOR".

Assigned:	John Scheib	Approval : John W Scheib	Approve Date: 8/4/2017

Repair of Cracks Found in Float Bottle Support Brackets

Background:

During replacement of rear float assembly the customer found the support bracket for the bottle has a small crack in the corner. Typical cracks in each bracket originate in the upper radius of the inboard attach clip and extend outboard in a downward curve. Ensure cracking does not exceed lengths shown in the Figures below.

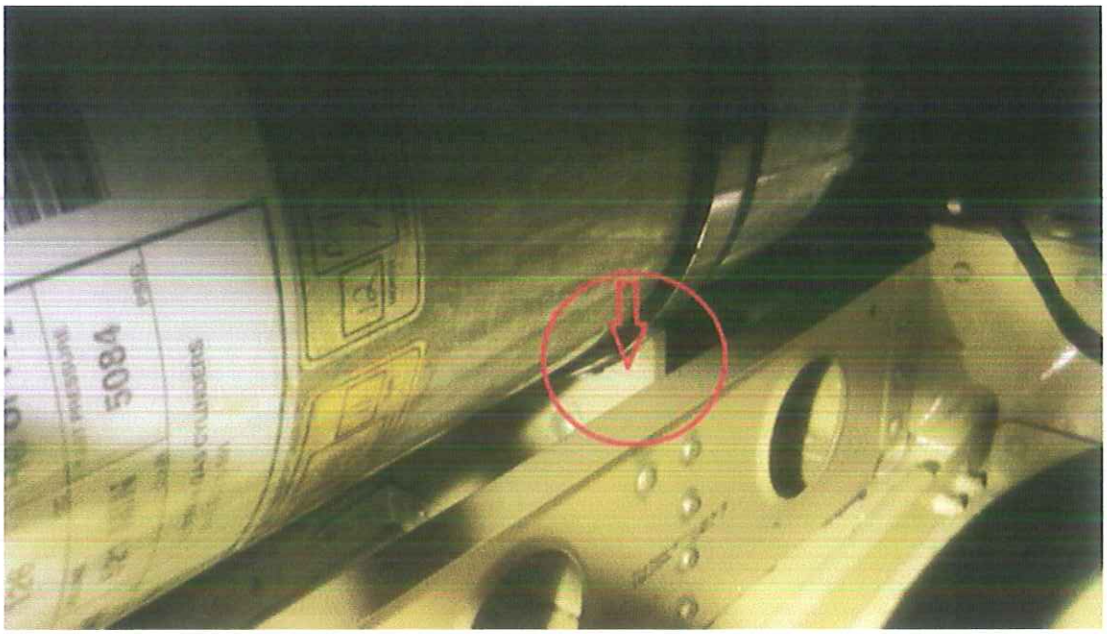

Figure 1 – General Location of Crack

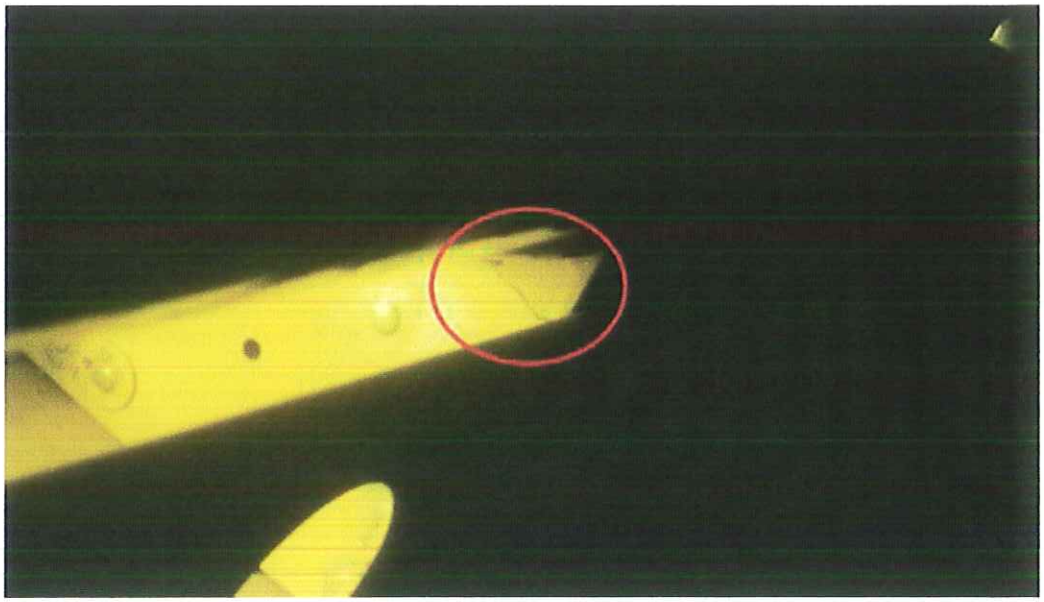

Figure 2 – Crack Location

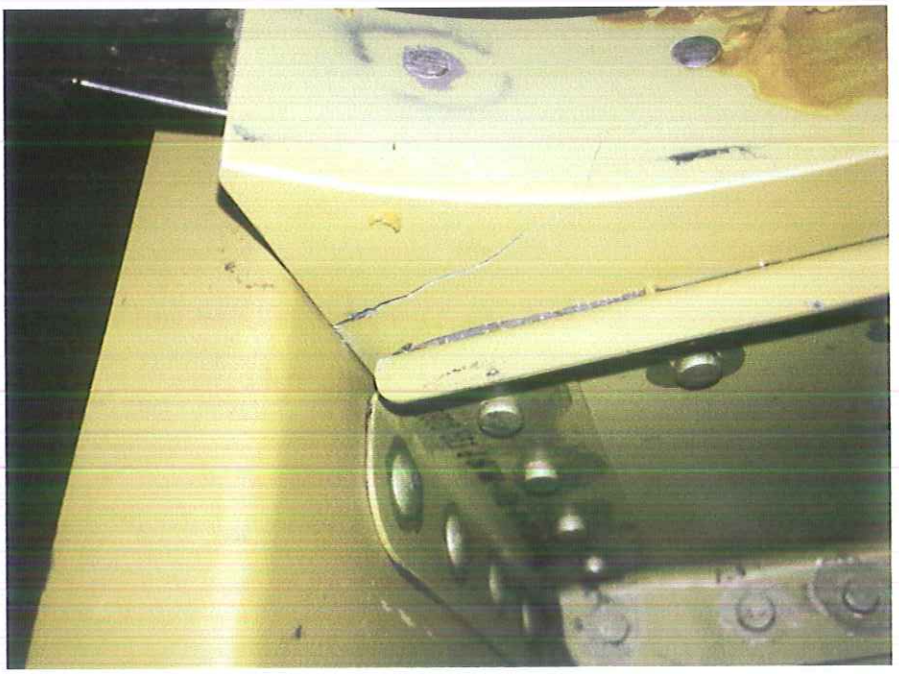

Figure 3 – Looking Down at Crack

Figure 4 – View Looking Up at Crack

Repair of Cracks Found in Float Bottle Support Brackets

Repair Procedure:

1. Prepare the ship for ground maintenance.
2. Remove any legacy fasteners from the repair area. Disconnect the steel band from the repair area.
3. Fabricate an inner doubler from .032" thick, 301 ¼ hard stainless steel sheet approximately as shown in Figure 5. Corner radii of the doublers shall be 0.190" minimum. Temporarily clamp the doublers into position and check for fit. If satisfied with the fit, back – drill the holes for the legacy rivets (shown in Figure 2) into the doublers. Strive to maintain 2D edge distance for the fasteners in the doublers, but the edge distance can be as low as 1.5D if necessary. Deburr the fastener holes and the edges of the doublers. Vacuum the area to remove any loose particles.
4. Fabricate an outer finger doubler from .020 gauge, 301 ¼ hard stainless steel sheet approximately as shown in Figure 6. Corner radii of the doubler shall be 0.190" minimum. Strive to maintain 2D edge distance and for the fasteners, but the edge distance can be as low as 1.5D if necessary. Bend the "fingers" of the finger doubler to fit over the straight doubler as shown in Figure 6. Temporarily clamp the finger doubler into position and check for fit. Back – drill the holes in the "fingers. Also back – drill the holes for the 3 legacy band fasteners into the doubler at this time using the existing holes as templates. De-burr the fastener holes and the edges of the doubler. Vacuum the area to remove any loose particles.
5. Layout and drill the .128" dia BJ4 field repair rivet locations as shown in either Figure 5 or Figure 6. Strive to maintain 2D edge distance and for the fasteners, but the edge distance can be as low as 1.5D if necessary.
6. Degrease the doublers and the repair area by wiping with a low-lint cleaning cloth (conforming to A-A-59323, Type II) using acetone (conforming to ASTM D329) or ethyl alcohol (conforming to A-A-51693). Wash with clean water to a water-break free condition.
7. Brush cadmium plate the doublers per MIL-STD-865.
8. Apply one coat of MIL-P-23377 epoxy primer to the doublers.
9. Prior to installation, lightly coat the mating surfaces of the doublers with MIL-S-8802 sealant.
10. Rivet the doublers into place on the bracket as shown in Figure 5 and Figure 6. Use BJ4 field rivets through the "fingers", and fasteners of the same type, size and material as the legacy fasteners in all the other locations. Wet – install the fasteners with MIL-S-8802 sealant.
11. After the sealant has cured, clean up any excess with a non-metallic scraper
12. Again degrease the repair area by wiping with a low-lint cleaning cloth (conforming to A-A-59323, Type II) using acetone (conforming to ASTM D329) or ethyl alcohol (conforming to A-A-51693). Wash with clean water to a water-break free condition.
13. Apply another coat of MIL-P-23377 epoxy primer to the repair area.

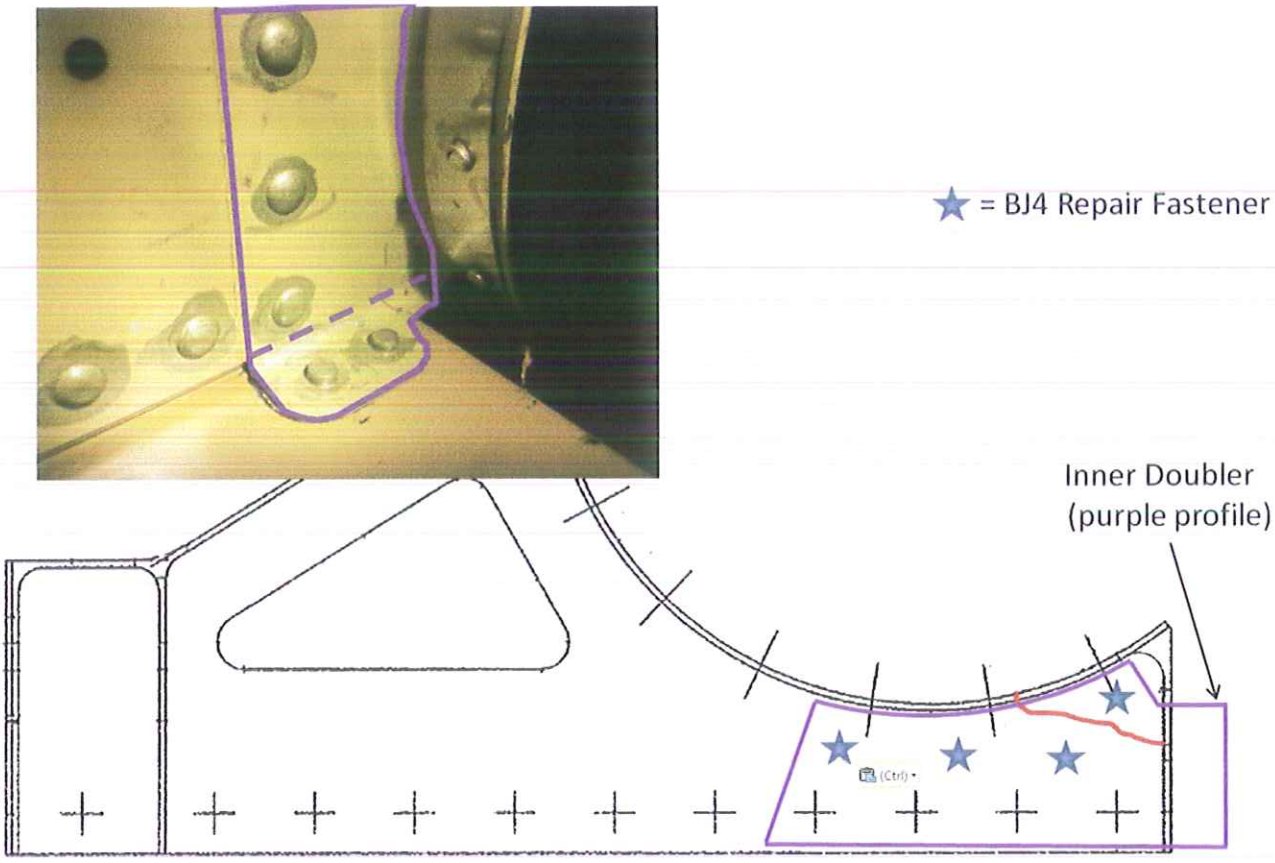

Figure 5 – Inner Repair Doubler

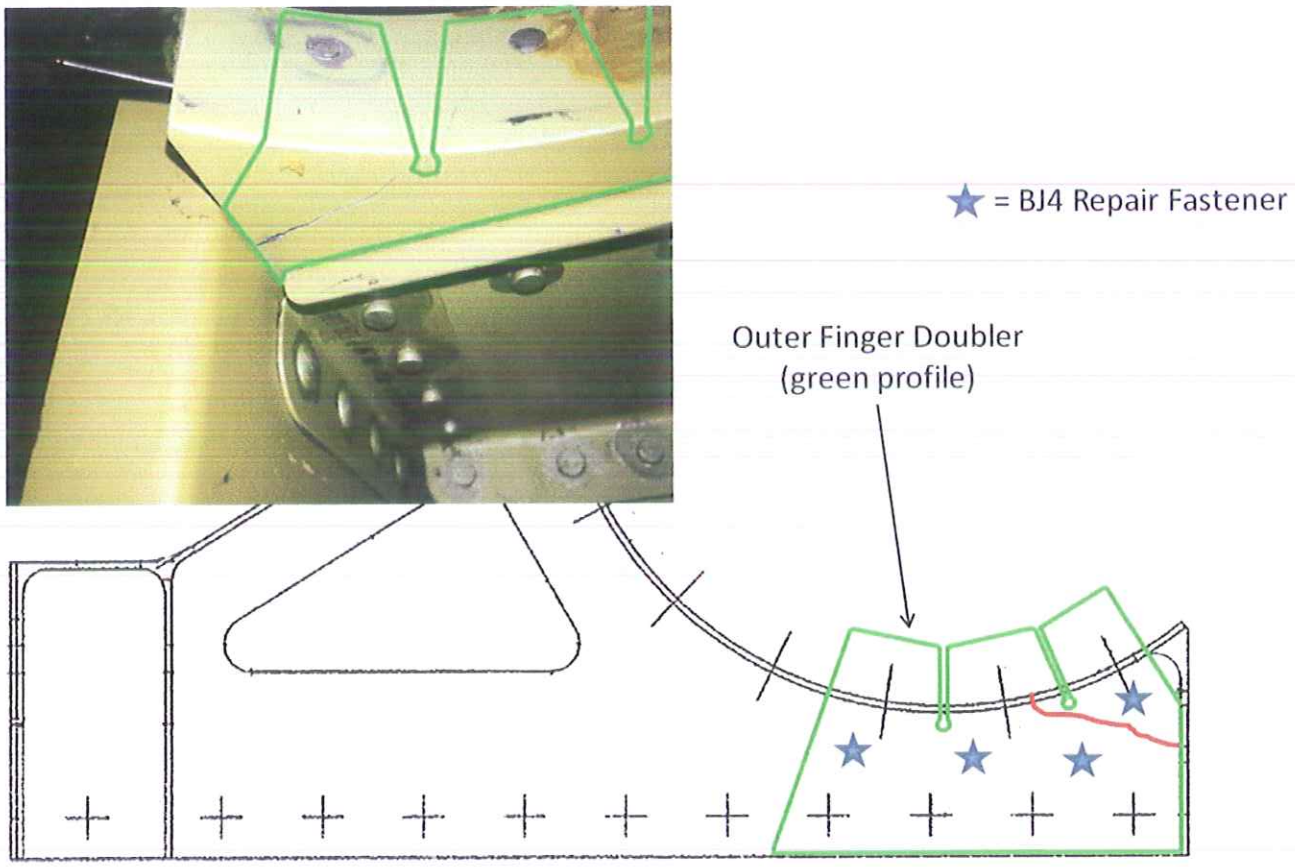

Figure 6 – Outer Finger Doubler