

NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Washington, D.C. 20594

December 3, 2013

STRUCTURES

Group Chairman's Factual Report

WPR12MA034

**Appendix A – Figures
(23 pages)**

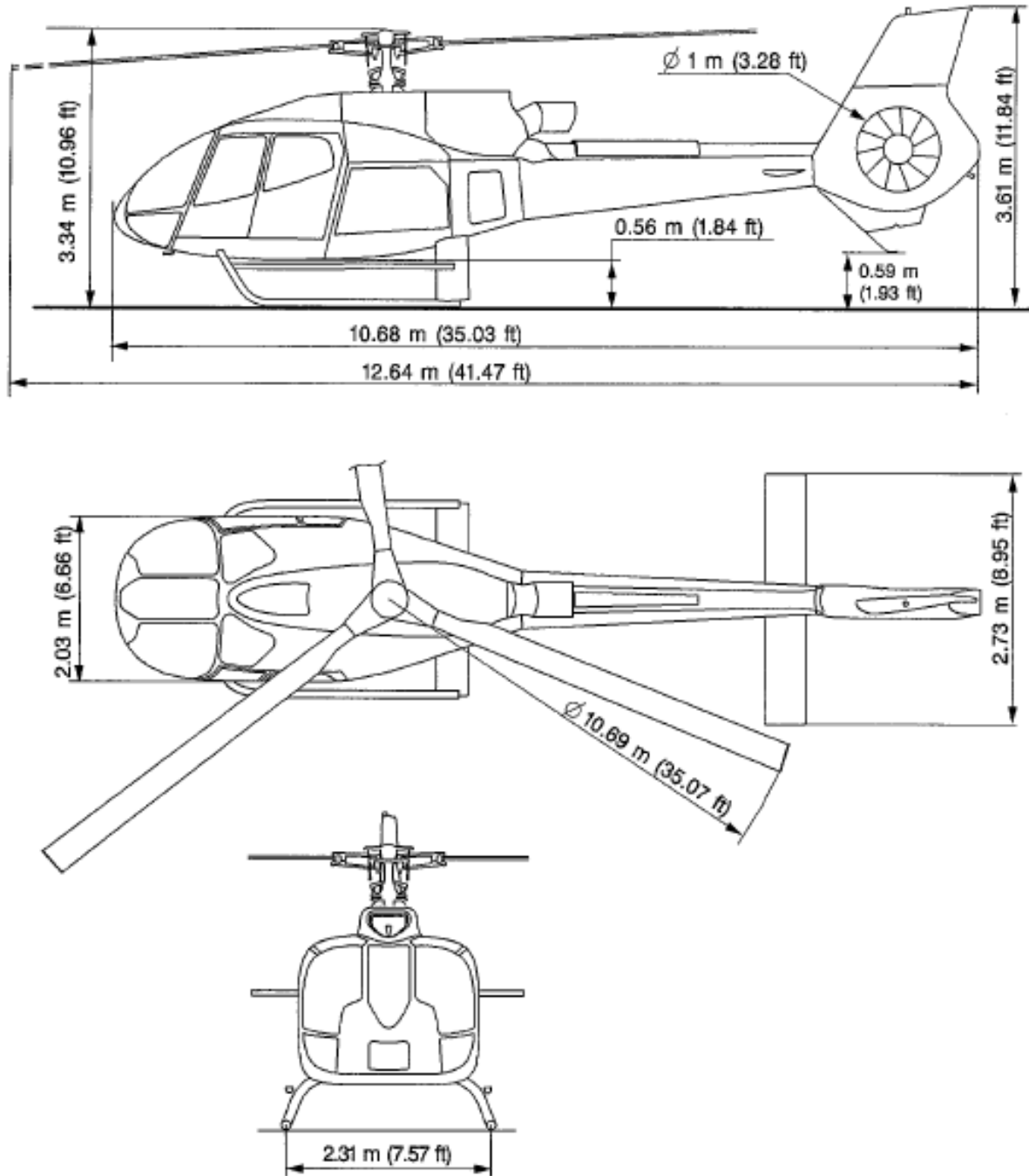


Figure 1 – EC130 B4 3-view drawing

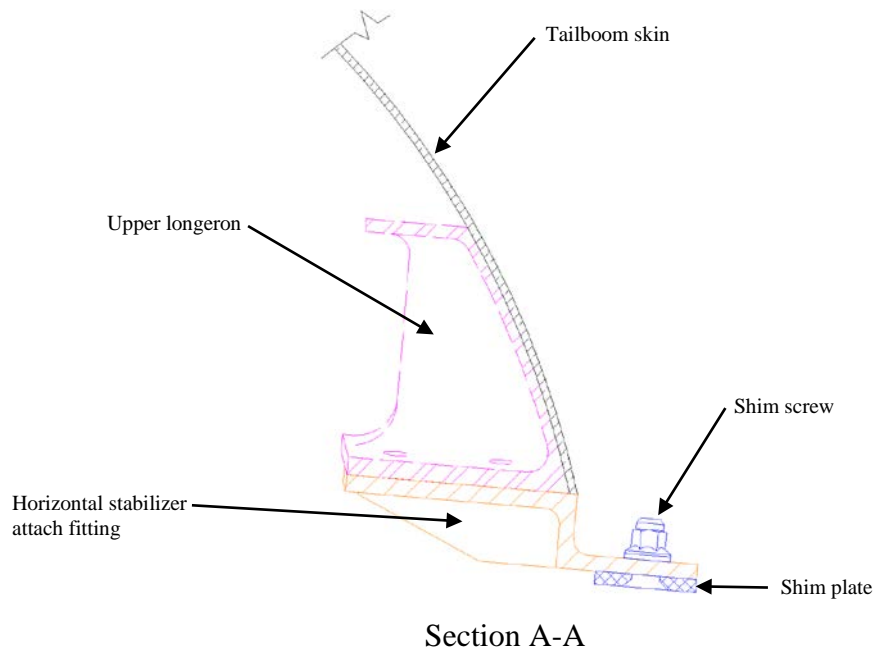
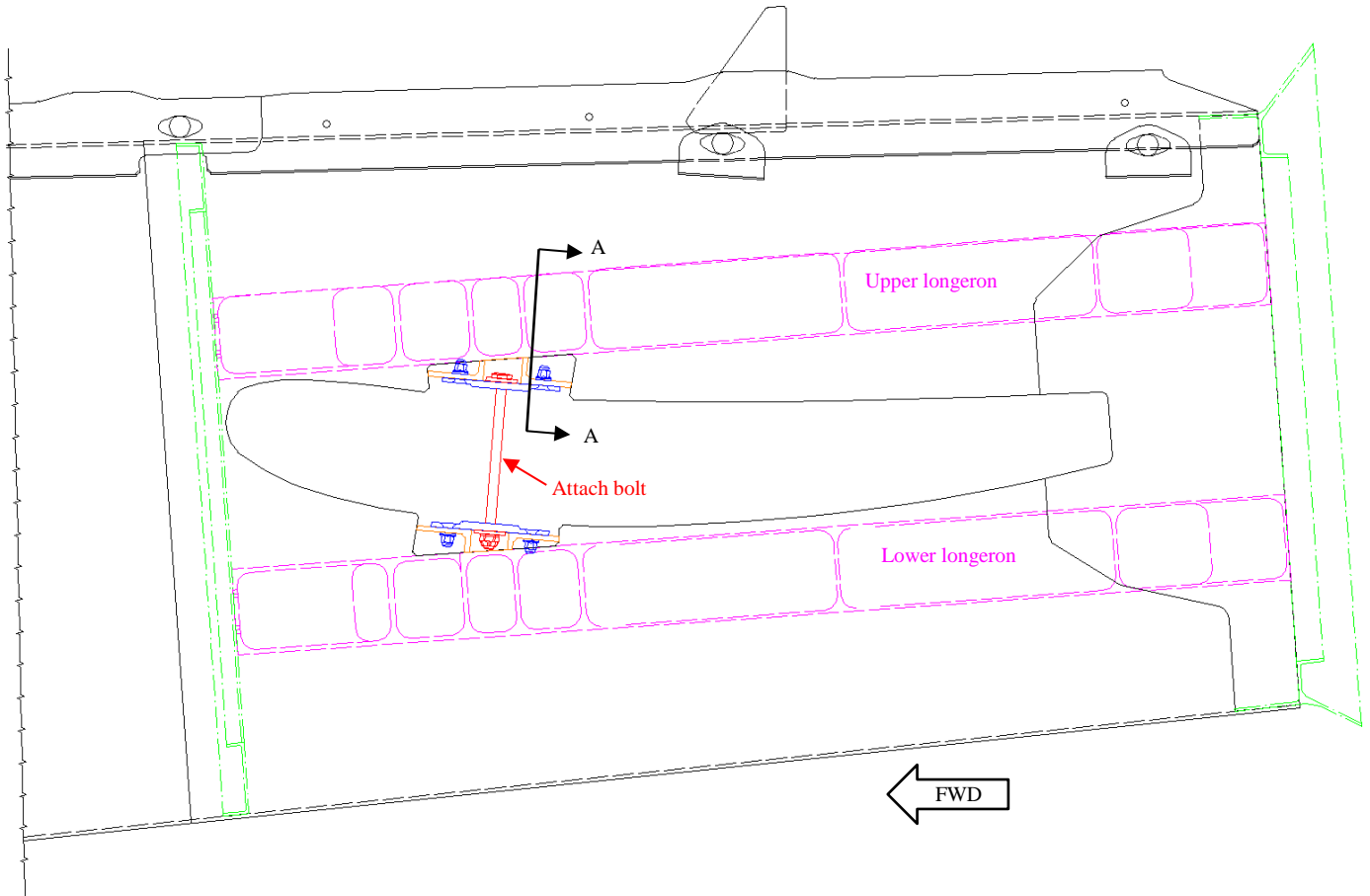


Figure 2 – EC130 Tailboom Structure

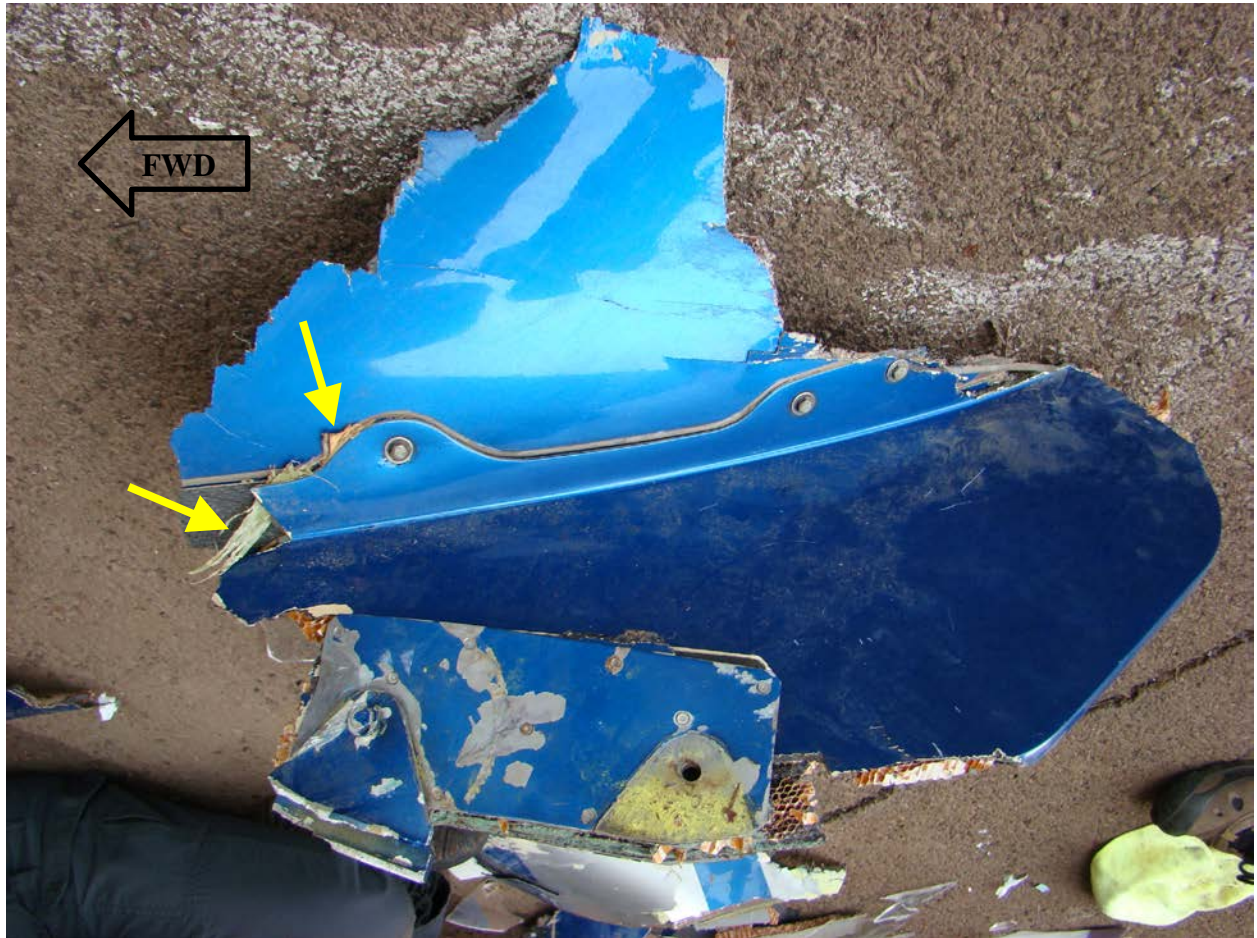


Figure 3 – Fenestron wreckage at stinger attach point



Figure 4 – Aft section of tailboom and right horizontal stabilizer as found at impact site



Figure 5 – Aft section of tailboom and left horizontal stabilizer as found at impact site



Figure 6 – Horizontal stabilizer deformation in tailboom as found at impact site

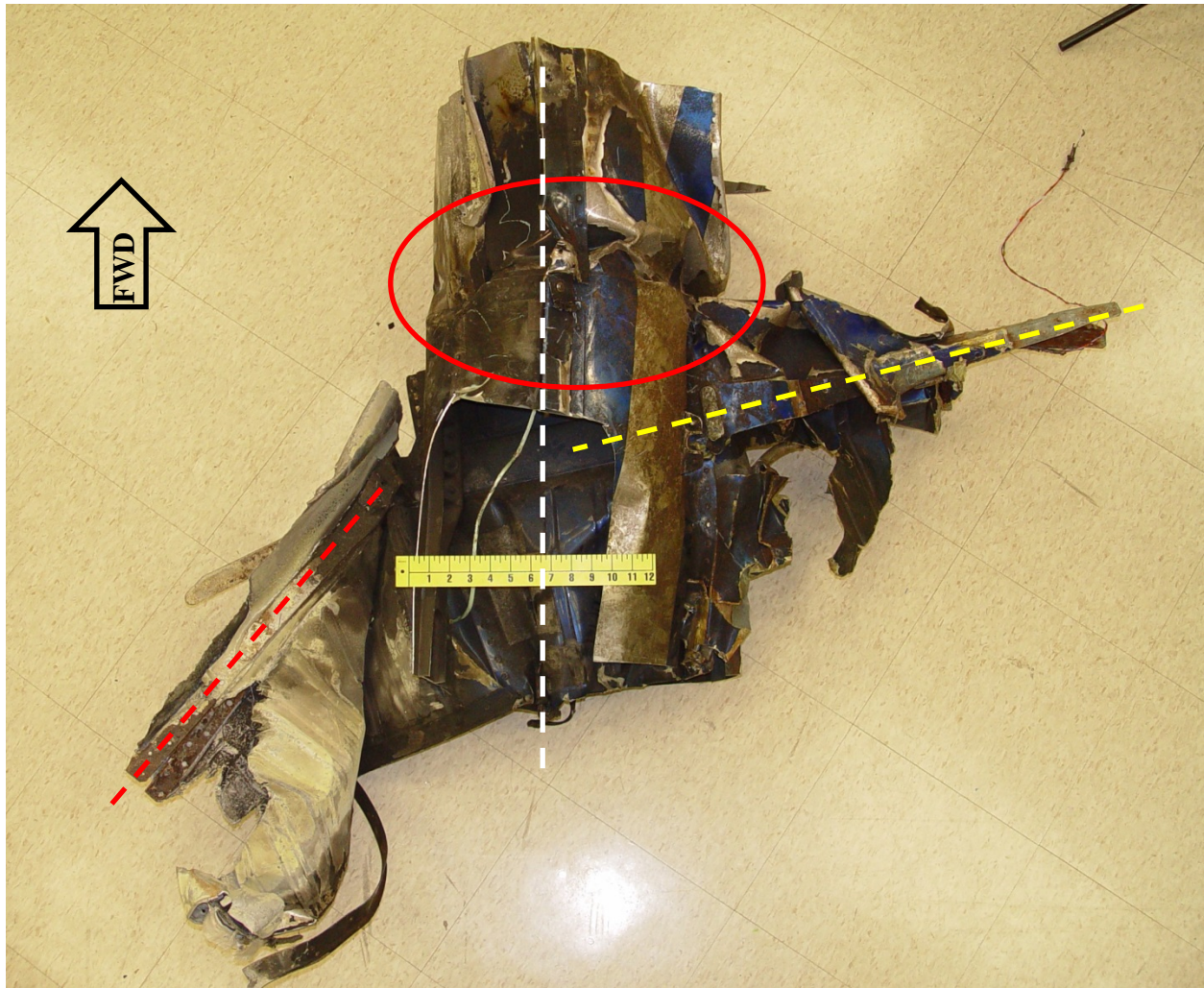


Figure 7 – Aft section of tailboom, top view



Figure 8 – Horizontal stabilizer after disassembly, top view



Figure 9 – Dirt and wood debris between right spar and spar strap

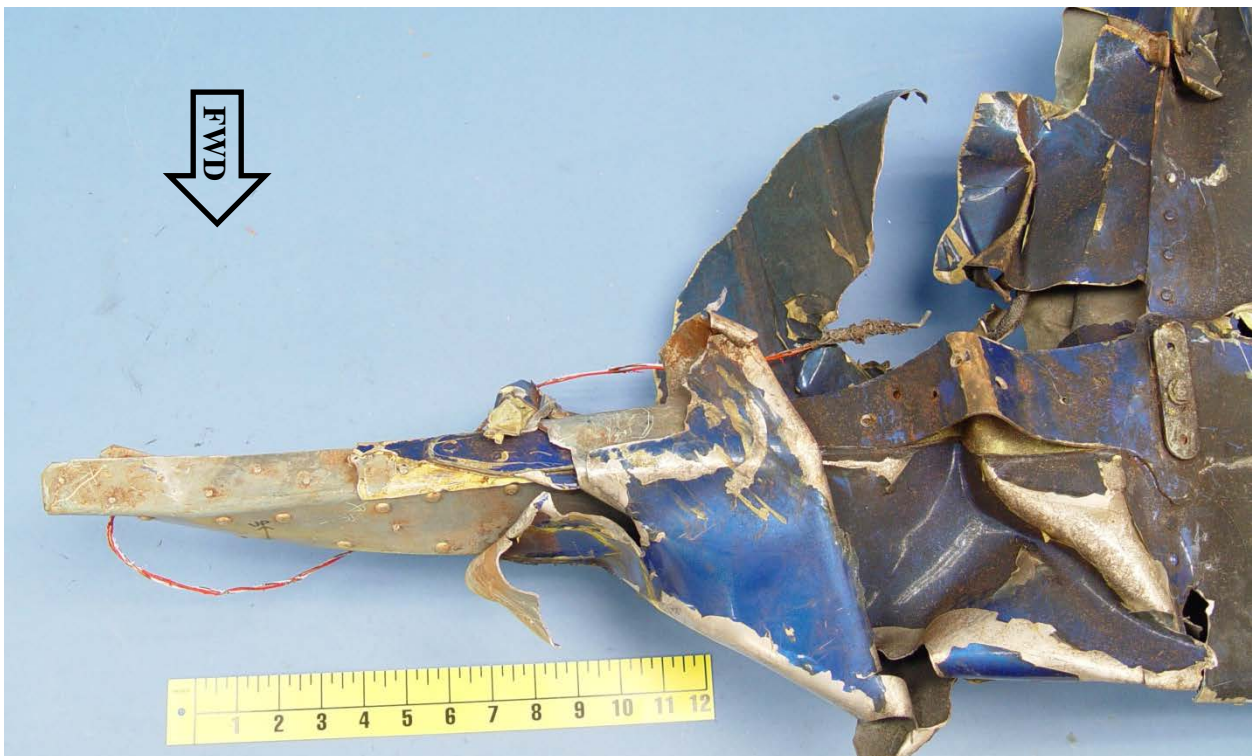


Figure 10 – Outboard end of right horizontal stabilizer spar.



Figure 11 – Left, upper stabilizer attach point

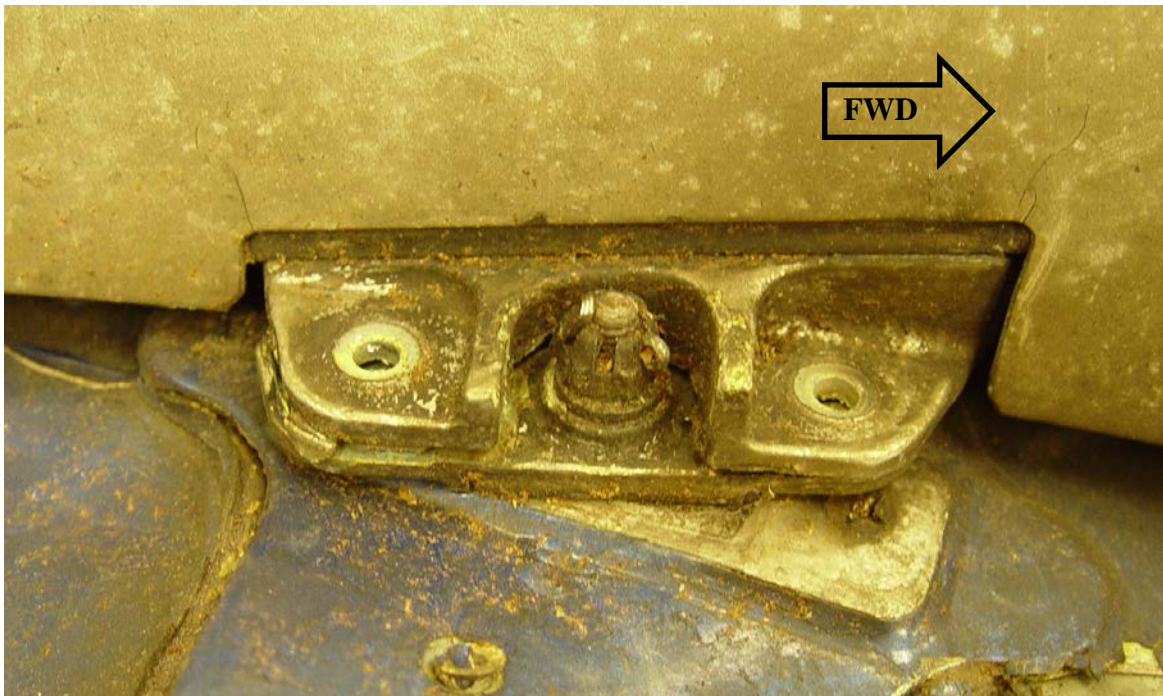


Figure 12 – Left, lower stabilizer attach point

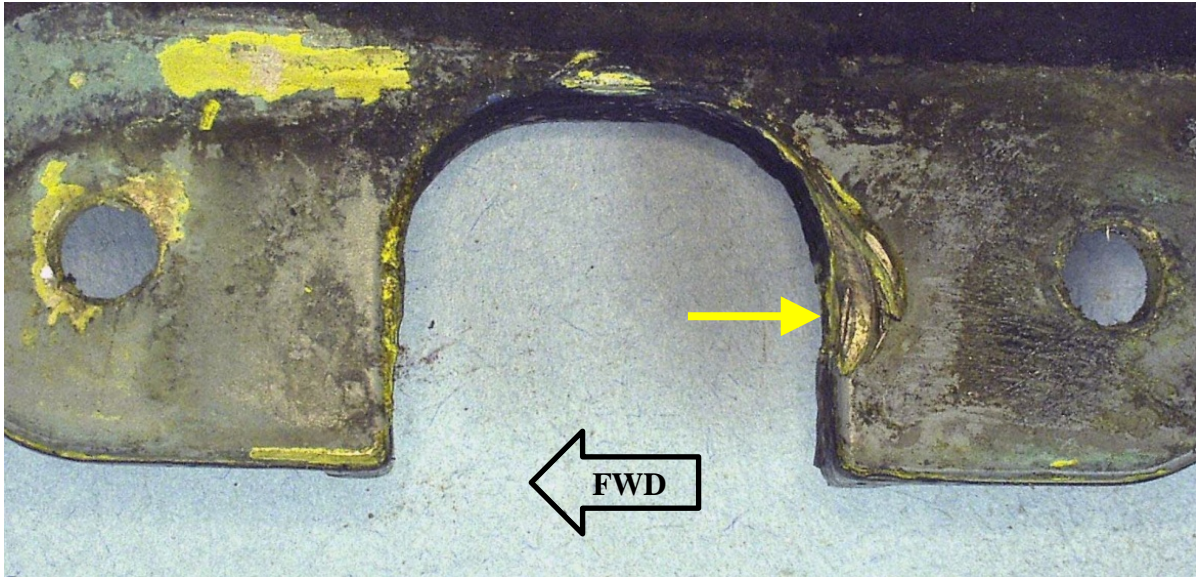


Figure 13 – Left, lower stabilizer attach fitting damage, looking down as installed

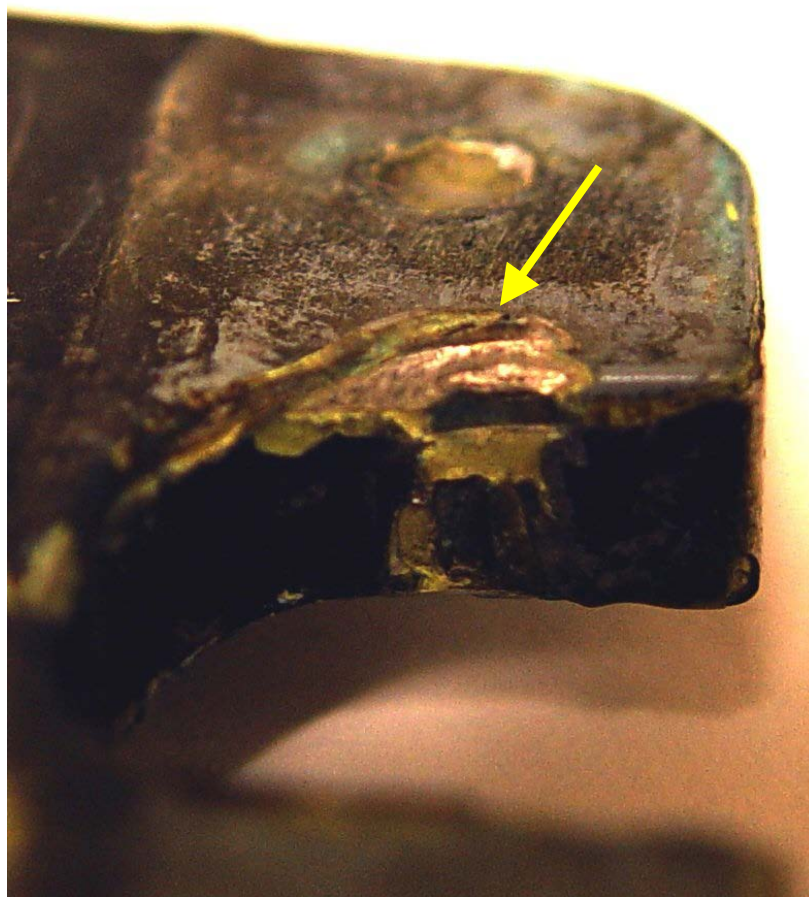


Figure 14 – Left, lower stabilizer attach fitting damage, looking aft as installed



Figure 15 – Left stabilizer attach bolt

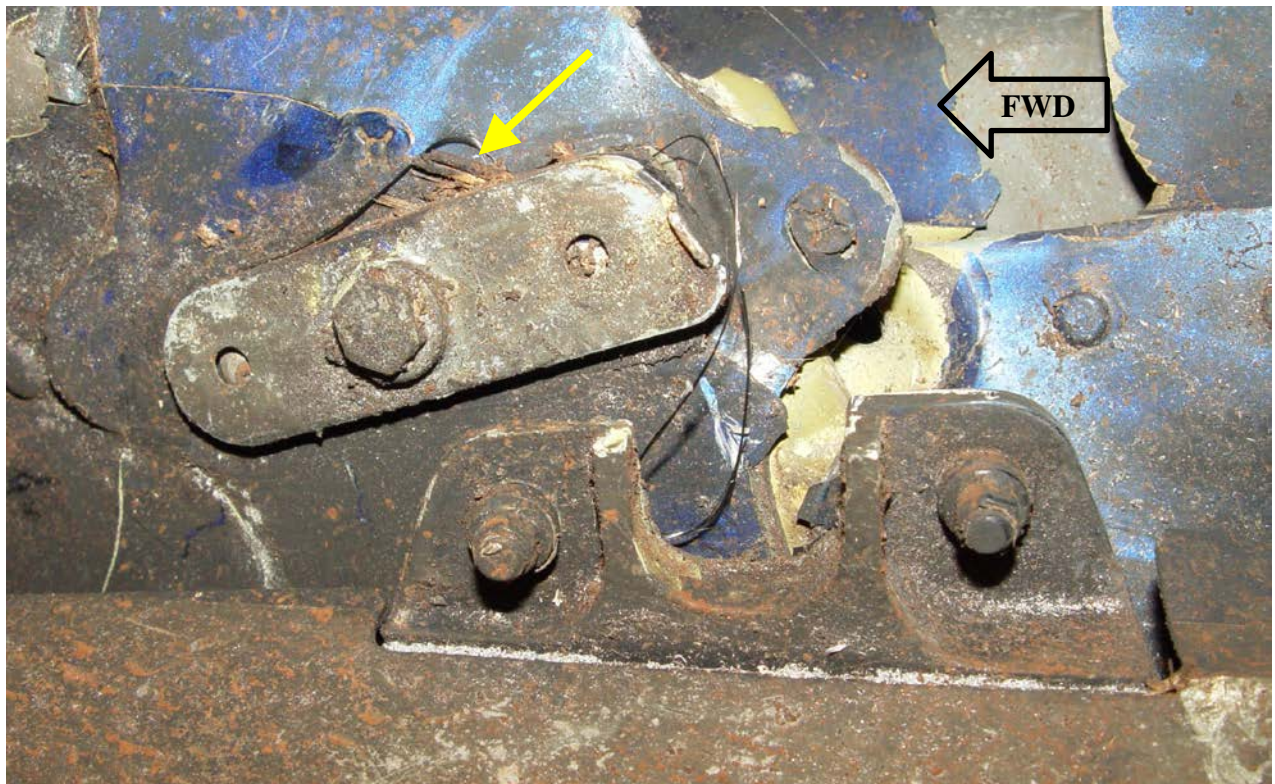


Figure 16 – Right, upper stabilizer attach point



Figure 17 – Right, lower stabilizer attach point



Figure 18 – Right, lower shim and wood debris

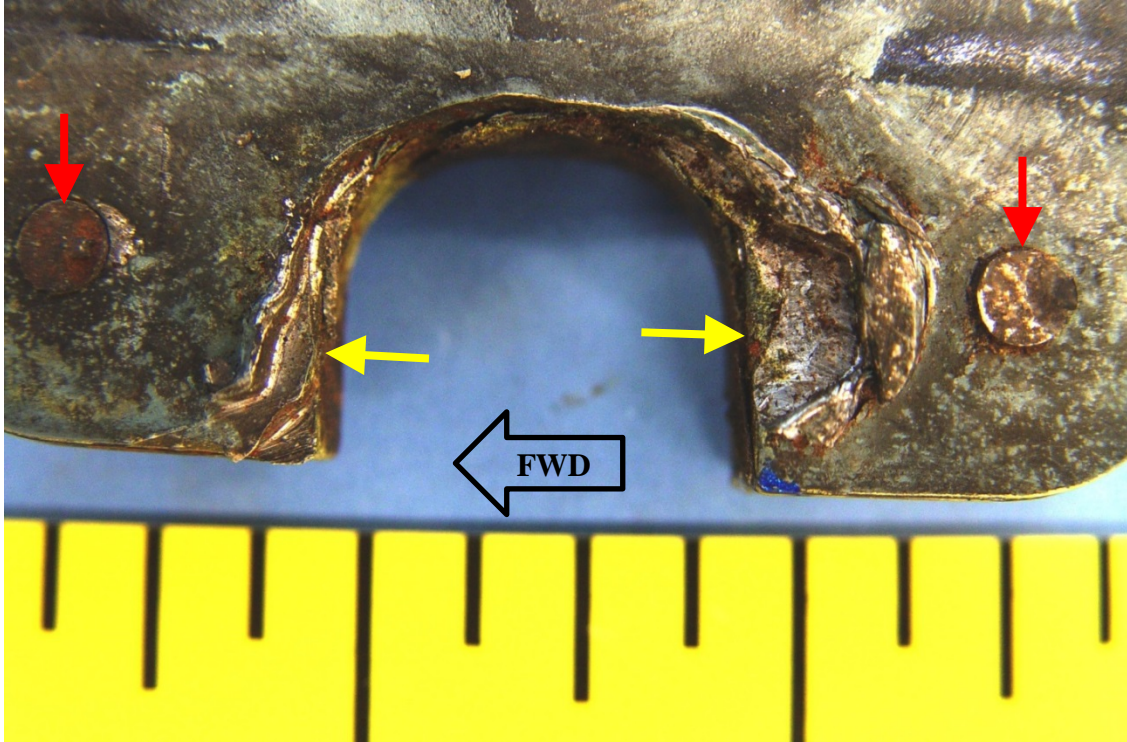


Figure 19 - Right, upper stabilizer attach fitting damage, looking up as installed

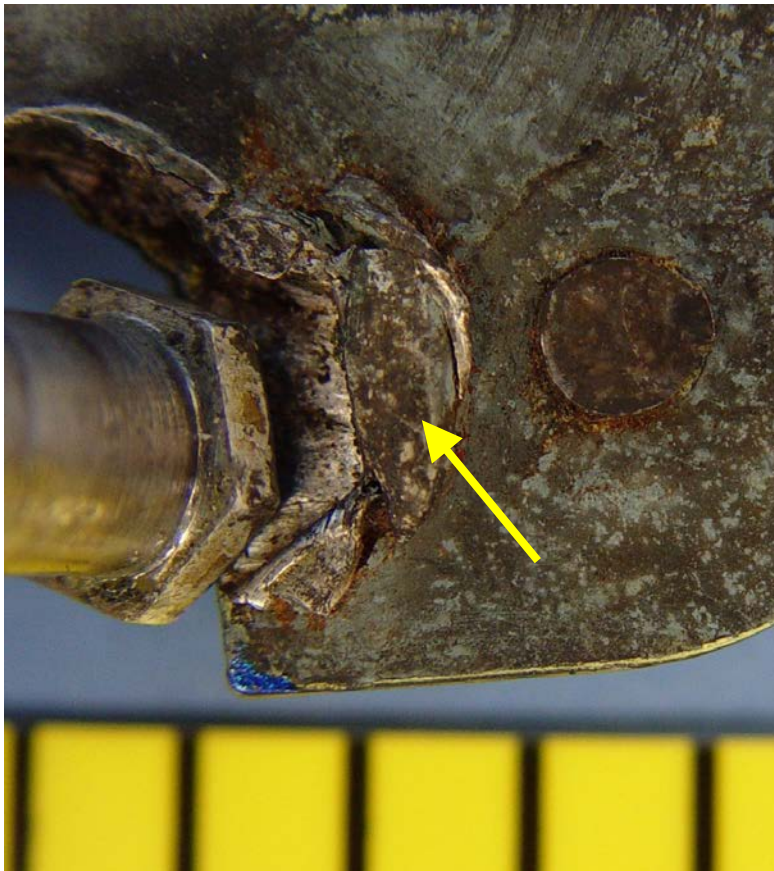


Figure 20 - Damage to lower, aft edge of right, upper stabilizer fitting



Figure 21 – Damage to lower, forward edge of right, upper stabilizer fitting

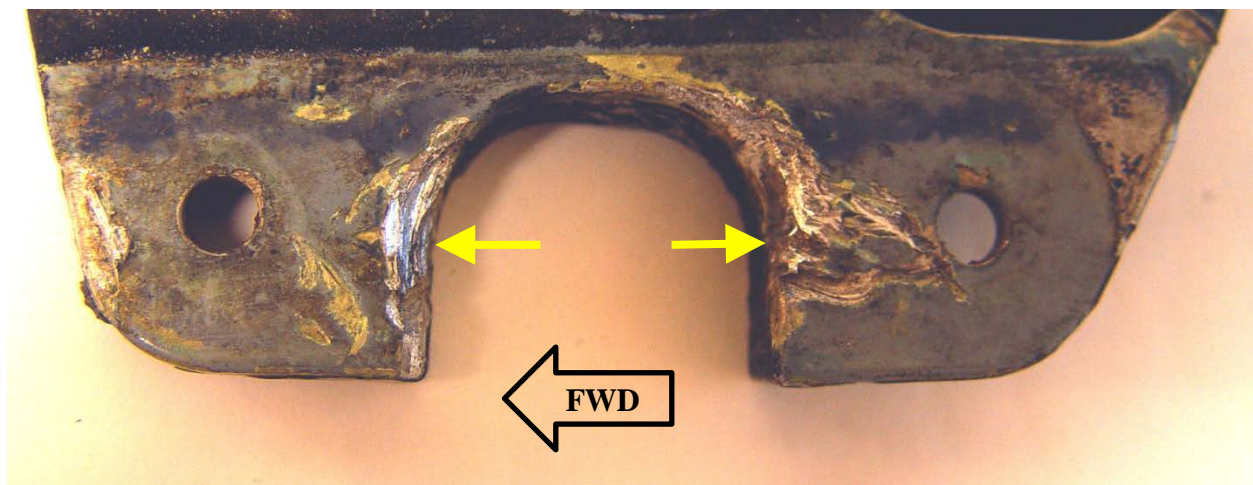


Figure 22 - Right, lower stabilizer attach fitting damage, looking down as installed



Figure 23 - Damage to upper, aft edge of right, lower stabilizer fitting



Figure 24 - Damage to upper, forward edge of right, lower stabilizer fitting



Figure 25 – Right stabilizer attach bolt



Figure 26 – Aft end of tailboom at junction frame fracture, looking forward



Figure 27 – Left side of ring frame at left forward longeron attach points, looking aft

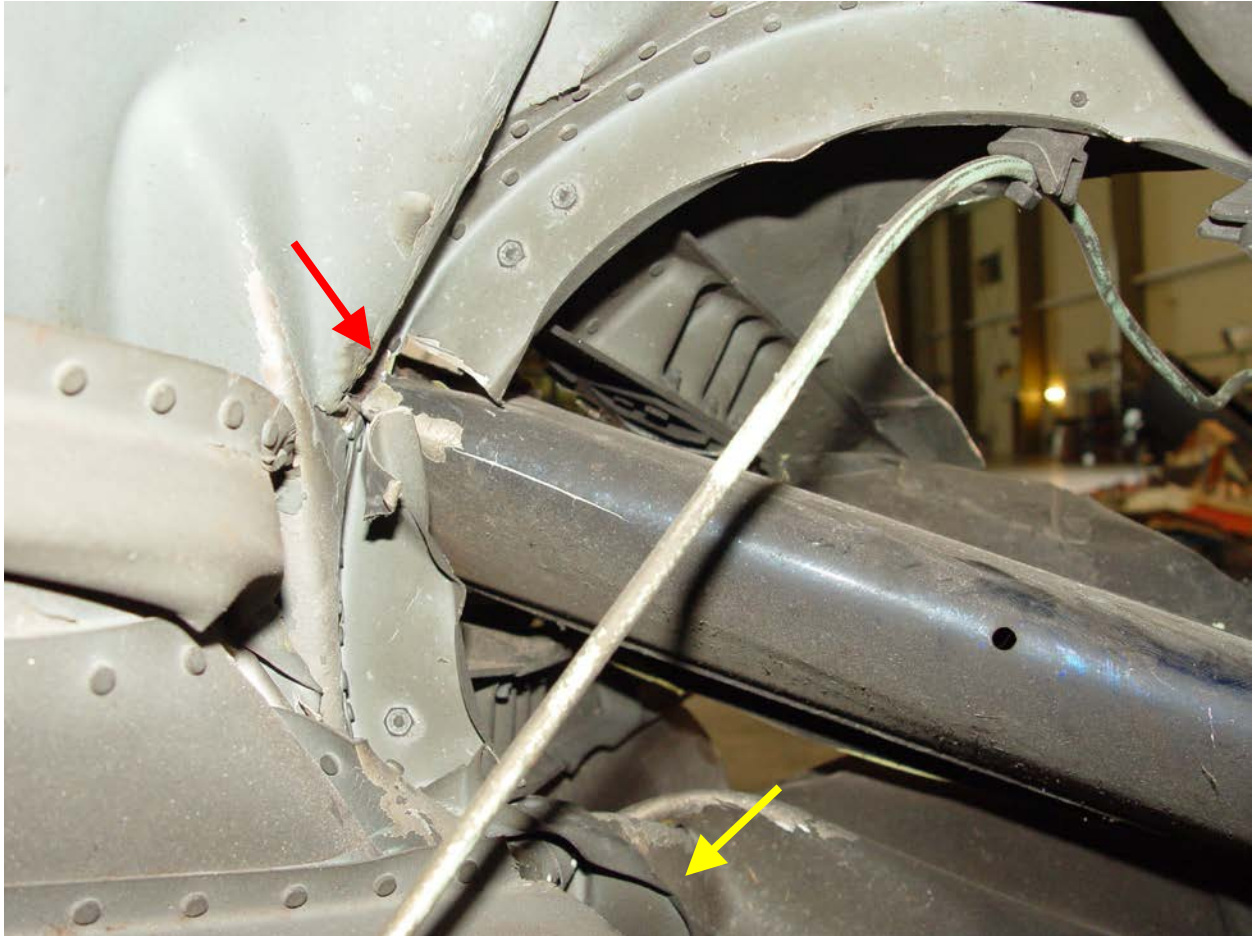


Figure 28 – Right side of ring frame at right forward longeron attach points, looking aft



Figure 29 – Left, upper longeron, looking forward



Figure 30 – Right, upper longeron, looking forward



Figure 31 – Right, lower longeron, looking forward



Figure 32 – Left, lower longeron, looking forward

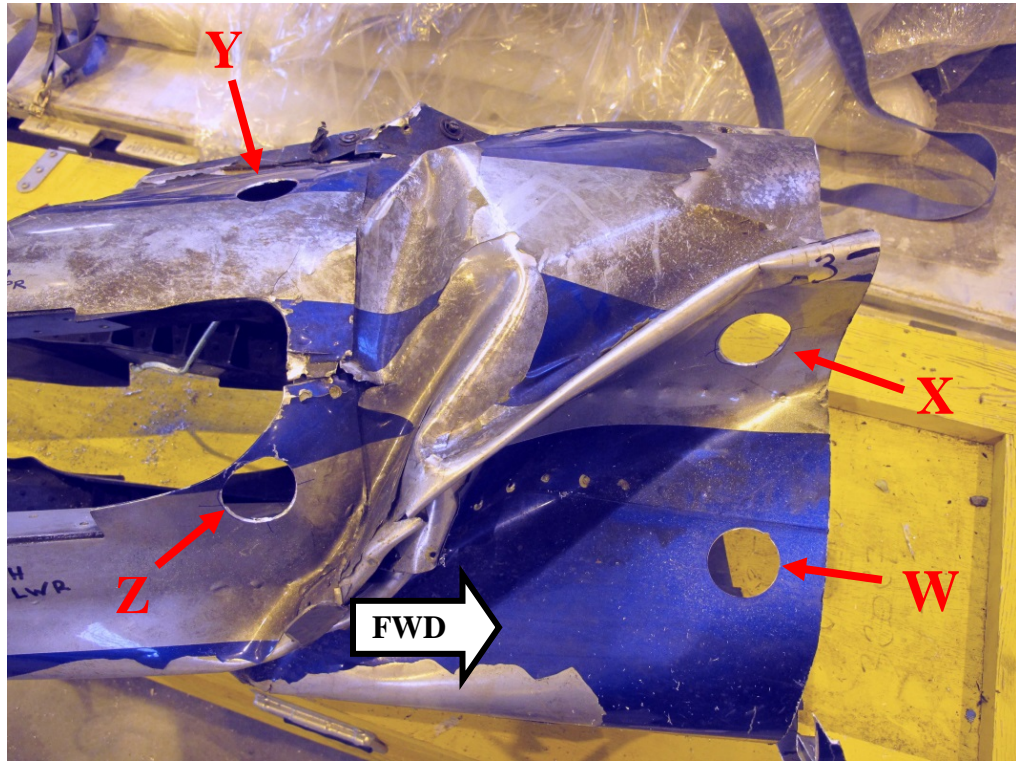


Figure 33 – Tailboom skin sample locations

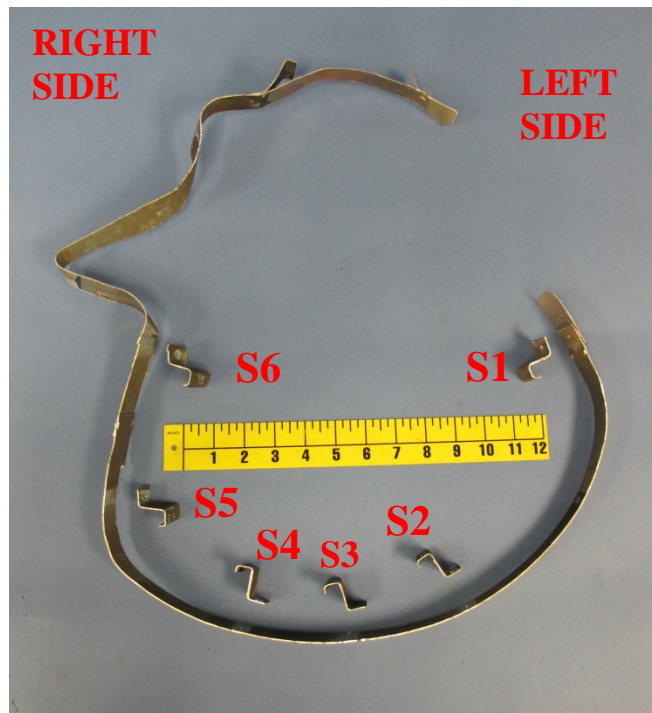


Figure 34 – Tailboom stringer locations

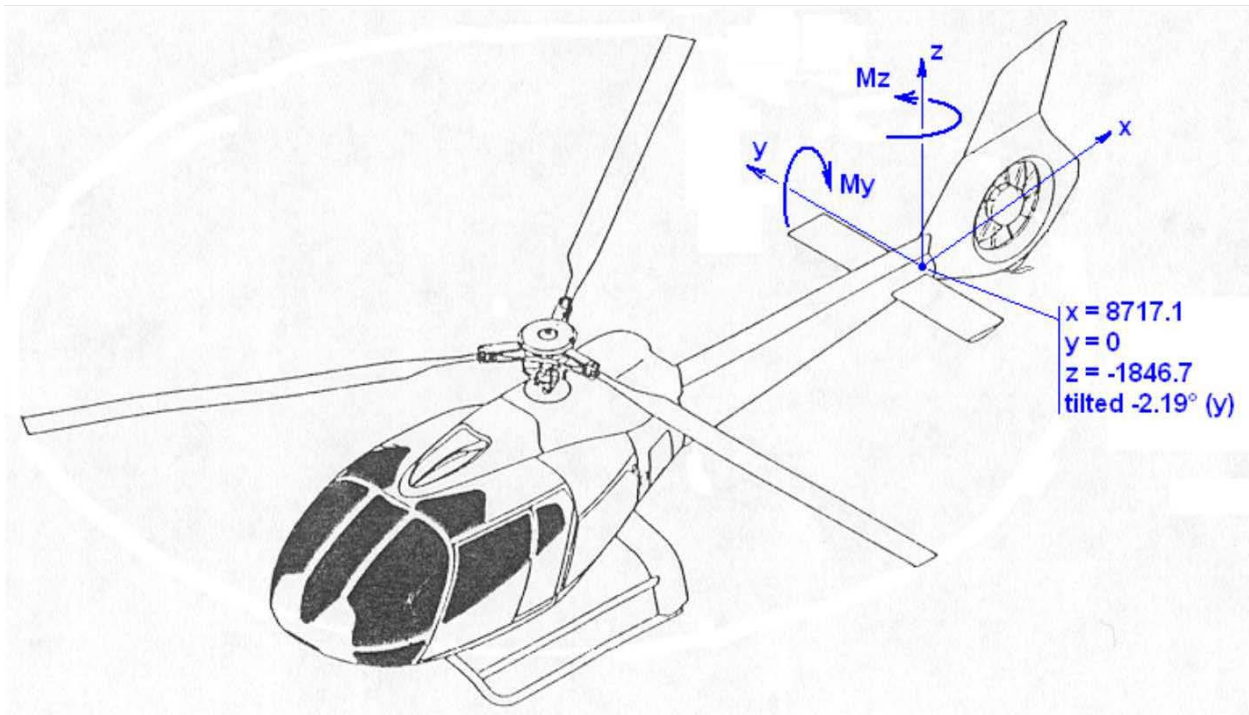


Figure 35 – EC130 junction frame load sign convention

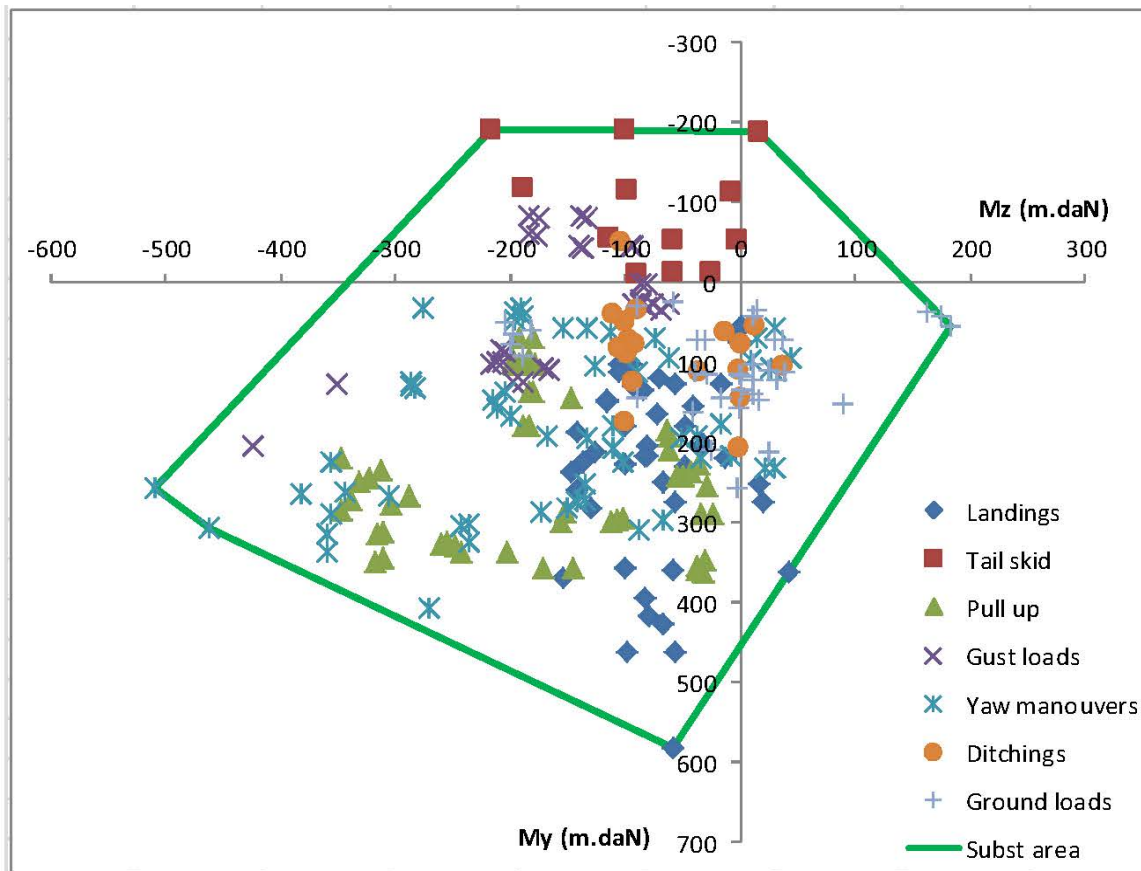


Figure 36 – EC130 junction frame load envelope

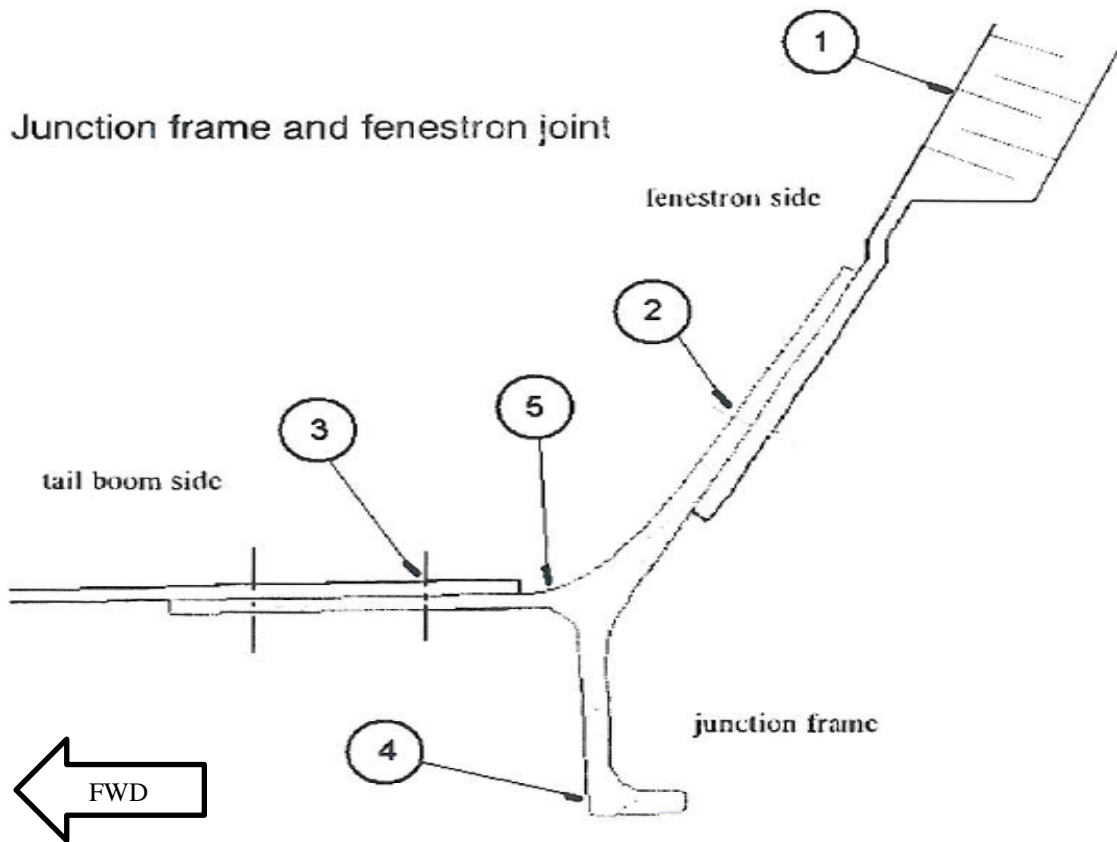


Figure 37 – Junction frame possible failure locations

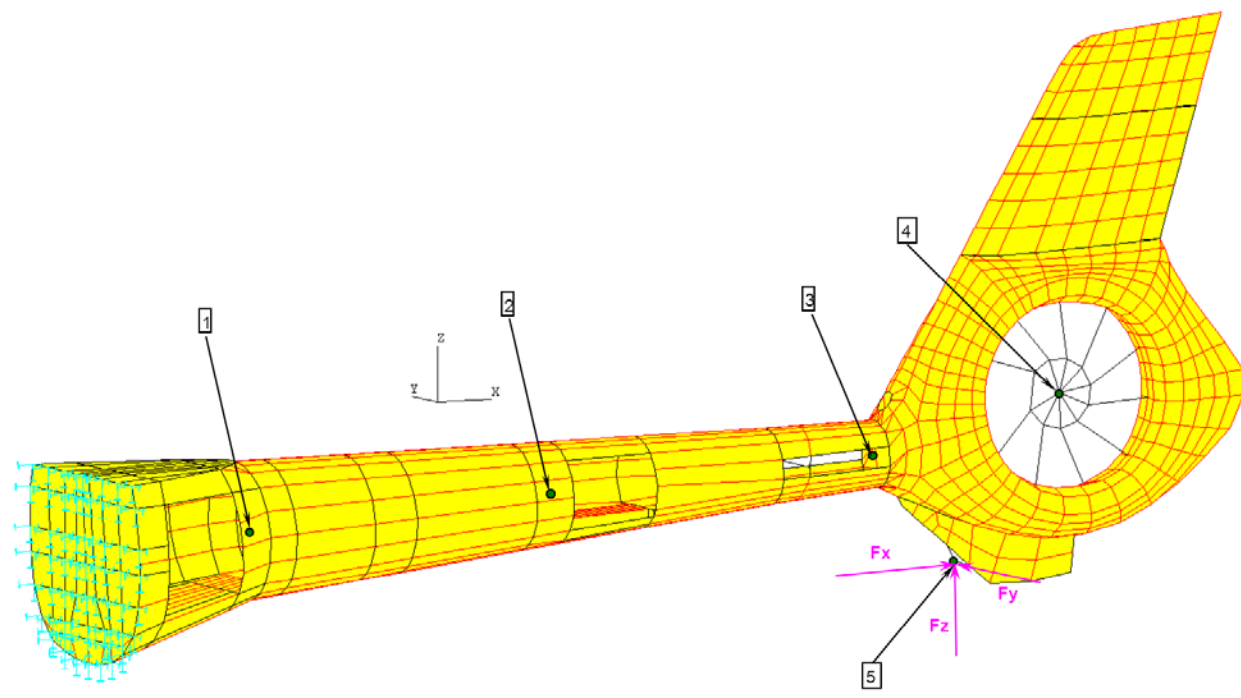


Figure 38 – EC130 B4 Tailboom critical locations