Composite repair on the 787

The trials and tribulations of the on-wing composite repair.
Introduction

• Tim Mitchell NDT Level 3 at American Airlines
• Current ASNT Level 3 holder – RT, UT, PT
  – Previous experience
  – A&P License in 2001
  – 5 years in Oilfield/Petrochemical NDT.
    • Level 2 – RT, UT, PT, MT
  – 5 years NDT Aerospace Manufacturing.
    • Level 2 – RT, UT, PT
  – 3 years NDT Education at Spartan College
The 787 Aircraft
The Damage
NDT Findings
NDT Findings
NDT Findings
Guided A-scan Damage Mapping
Sacrificial Plug
1st Stage Repair
1st Stage Repair Findings
2\textsuperscript{nd} Stage Repair
X-Y Scanner
2nd Stage Repair Findings

Area of bondline NDI finding. Located on aft upper corner of No 3 Window.
What We Learned

• X-Y Scanner suction cups did not work as well as anticipated.
  – Later purchased 6 inch suctions instead of 4 inch

• X-Y Scanner needs a strap to hold the far side of the scanner to A/C

• Do not use couplant during scan on A/C
  – Erroneous readings were found and caused by pooled couplant

• The Olympus software is a must.
  – Overcame IT internal issues with software.