Composite Helicopter Project

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New Zealand Aviation System

Aircraft Class
- Aeroplane
- Helicopter
- Microlight
- Glider
- Amateur Built
- Balloon

- Total: 1959
- Aeroplane: 1065
- Helicopter: 837
- Microlight: 334
- Glider: 313
- Amateur Built: 64
- Balloon: 64
Innova Composite Helicopters
Project status

- US investors
- Development & planning
- 2 year TC program
- FAA shadow certification
Fully articulated main rotor & ducted fan tail rotor
6 seats - GW 3,200lb – Vne 140kts – Ceiling 14,000ft – RR300 (TO 330shp)
Passenger & utility roles
Carbon Aramid composite monocoque structure
History

ZK-ICM Sn # 001
Total flight hrs 198
• Minimal fuselage structural damage (Tail Boom)
• MRGB / Eng frame - No damage
• TRGB frame - No damage
• MRB Spindles – Run out satisfactory
• MR shaft – Run out satisfactory
• No primary composite structure failure
• Minimal fuselage structural damage (Tail Boom)
• MRGB / Eng frame - No damage
• TRGB frame - No damage
• MRB Spindles – Run out satisfactory
• MR shaft – Run out satisfactory
• No primary composite structure failure
Tail Strike – blades 3 & 4
ZK-HOL Sn # 003
Total flight hrs 48
ZK-HOL Sn # 003 November 2014 – Loss of control
Certification Issues

- Composite issues specific to rotorcraft?
- Certification approach for resin infusion compared to prepreg?
- Continuing Airworthiness for monocoque structure
  - DT, inspection & repairs
  - rotorcraft v’s 787 maintenance environment/training
- Composite seats
- Integral fuel tanks
Thank you