

AIRCRAFT STRUCTURAL REPAIR FOR ENGINEERS

- Course times are 8 am to 4 pm.
- Morning tea, a light lunch and afternoon tea will be provided each day.
- Course notes will be provided on the first day.
- Each course has a maximum of 20 students.
- The course fee: Part I: \$4,800 per person plus 10% GST (\$5,280 GST inclusive) 9 day course. Part II: \$4,400 per person plus 10% GST (\$4,840 GST inclusive) 5 day course.
- A discount to the course cost is available for those that attend both parts of the course. Course fee for both Parts I & II: \$8,740 per person plus 10% GST (\$9,614 GST inclusive) 14 day course.
- Participants will receive a course photo and certificate on completion of the course.
- Fully completed registration forms indicating type of payment, and including purchase order number where applicable, must be received at QTT by **5 May 2010**.

Registration will be confirmed either on attainment of class capacity or, alternatively, one month before course start date. Further course information will be sent directly to the participants after the registration cut off date. QTT advises that attendees wait to book travel and accommodation until receipt of course confirmation letter.

Refer to the QTT website (www.qtttraining.com.au) for full terms and conditions, including cancellation and privacy policy.

AIRCRAFT STRUCTURAL REPAIR PARTS I & II

Boeing Training and Flight Services

Effective airline maintenance is the result of performance-oriented innovative training – and the key to any successful airline operation. The courses offered by Boeing Training & Flight Services (formerly Alteon) are the most current and comprehensive in the world. With an established global network, Boeing delivers training to maintenance technicians and engineers to support their operations, regardless of fleet mix.

The Aircraft Structural Repair for Engineers Course is another example of Boeing delivering on its mission to enhance safe, efficient airline operations, while satisfying ATA 104 Level IV objectives.

The course is presented by an industry experienced professional engineer from Boeing Training & Flight Services.

FOR FURTHER INFORMATION CONTACT:

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ABN: 56 127 766 689

QinetiQ

QinetiQ Technology Training

presents

AIRCRAFT STRUCTURAL REPAIR FOR ENGINEERS

in partnership with



Dates:

Part I: 7 - 17 June 2010

Part II: 21—25 June 2010

Venue:

Level 4, 210 Kings Way
South Melbourne
Victoria

Recognised for **Continuing Professional Development**
in accordance with Engineers Australia guidelines.

STRUCTURAL REPAIR FOR ENGINEERS PART I COURSE OVERVIEW

This nine-day course uses a combination of lectures, practical exercises and discussion to provide participants with the foundation tools to assess, design and analyse a metallic repair (mainly in tension and shear) for damage beyond the scope of Structural Repair Manuals.

Prerequisites: Engineering degree or equivalent experience.

Learning Outcomes:

On completion of this course, participants will be able to:

- Identify basic design requirements for structural repairs.
- Describe typical aircraft structures and loads.
- Identify fasteners and joints used in repairs.
- Design a metallic structural repair for damage outside the scope of the SRM with increased probability of acceptance from approval agencies.

COURSE OUTLINE

Loads:

- External loads
- Internal loads and load paths

Materials:

- Aluminium alloys usage
- Titanium alloys usage
- Steel alloys usage

Fasteners:

- Rivets
- Hex-drive, lockbolts, radius lead-in bolts
- Bolt strengths and hole-fit classifications
- Blind and oversize fasteners

Joints:

- Allowables and analysis
- Failure modes
- In-line row joint repair
- Staggered row joint repair
- Eccentrically loaded joints
- Shims

Durability:

- Corrosion protection
- Fatigue resistance
- Shot peening & cold working holes

Structural Repair Problems:

- Repair of structures in tension - Stringer & chord repairs
- Repair of structures in shear - Web & skin repairs

Homework will be given during the course.

STRUCTURAL REPAIR FOR ENGINEERS PART II COURSE OVERVIEW

This five-day course uses a combination of lectures, practical exercises and discussion to provide participants with advanced tools to assess, design and analyse repairs for more complex loading actions (main focus on bending and compression) in metallic structure.

Preferred Prerequisites: Engineering degree or equivalent experience and Aircraft Structural Repair Part I.

Learning Outcomes

On completion of this course, participants will be able to:

- Assess repairs for compression column buckling and inter-fastener buckling.
- Assess repairs for compression crippling.
- Assess repairs for beam-column buckling.
- Restore the load carrying capability of a damaged beam.

COURSE OUTLINE

Beam Repair:

- Centroid
- Moment of inertia
- Bending stress distribution
- Non-symmetric beams
- Composite beams

Compression Loads:

- Euler column buckling
- Inelastic buckling
- Inter-fastener buckling

Crippling:

- Modified Needham method
- Extrusion vs. formed angle
- Lips and bulbs
- Johnson-Euler columns

Compression Repair:

- Assessments
- Buckling guidelines
- Crippling guidelines
- General guidelines

Beam-Column Effects and Assessment

Plate Buckling

Repair Guidelines

Structural Repair Problems

Registration Form

AIRCRAFT STRUCTURAL REPAIR FOR ENGINEERS

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Parts I & II: 7–25 June \$8,740 (\$9,614 GST Inc)

First Name _____ Surname _____

Company/Military Group/Agency/Organisation _____

Job Title _____

Postal Address _____

Phone _____ Mobile _____

Email _____

Method of Payment: cheque direct deposit credit card

Credit Card: Please fill-out an authorisation form available at www.qtraining.com.au or by ringing +61 3 9694 1000. Note a 1% surcharge applies to all card payments.

PLEASE INVOICE

Purchase Order No. _____

Name: _____

Address: _____

Contact No: _____

Form must be returned to QTT by 5 May 2010

Privacy: Your personal information may be used as follows:

- Tick if you do not want your name and email address to be included in the contact list which is provided to your fellow course participants.
- Tick if you do not want to be added to our confidential emailing list which will advise you of future QTT courses.
- Tick if you do not give permission for QTT to use your group course photo in course promotions.
- Tick if you do not give permission for QTT to give your information to its parent company QinetiQ Pty Ltd for marketing purposes.

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CANCELLATION

Should you be unable to attend, a suitable substitute is always welcome. Alternately, a refund less a \$150 administration fee will be made for cancellations received in writing prior to 5 May 2010. Refunds will not be given after 5 May 2010, however for exceptional circumstances some credit may be given towards another QTT course.