

FOUNDATIONS OF HELICOPTER AERODYNAMICS

- Course times are 8 am to 4 pm (Monday to Thursday) and 8 am to 11.30 am (Friday.)
- Morning tea, a light lunch and afternoon tea will be provided Monday to Thursday and morning tea on Friday.
- The texts, *Helicopter Aerodynamics Vol I and II*, and course notes will be provided on the first day.
- The course has a maximum of 30.
- The course fee is \$3,100 per person plus 10% GST (\$3,410 GST inclusive).
- Participants will receive a course photo and certificate on completion of the course.
- Registration forms along with payments, purchase orders, and/or invoice requests must be received at QTT by **12 March 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.

RAYMOND PROUTY

A world-renowned rotary-wing aerodynamicist, who has been working with helicopters for nearly 60 years. He has been involved in the development of several rotorcraft systems. Raymond Prouty has a simple and direct style and a talent for making the challenging and complex topic of helicopter aerodynamics interesting and easy to understand. He is the author of several books and regularly writes articles for various aviation industry magazines.

FOUNDATIONS OF HELICOPTER AERODYNAMICS

A four and a half day course which gives you an understanding of the various aerodynamic and load considerations that affect helicopters. You will gain the skills to analyse the performance of an existing helicopter or participate in its design or modification.

FOR FURTHER INFORMATION CONTACT:

Training Coordinator
QinetiQ Technology Training
Level 4, 210 Kings Way
South Melbourne
Victoria Australia 3205
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Fax: +61 3 9694 1020

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www.qtttraining.com.au

ABN: 56 127 766 689

QinetiQ Technology Training

presents

FOUNDATIONS OF HELICOPTER AERODYNAMICS

Instructed by

RAYMOND PROUTY



Date:

12 - 16 April 2010

Venue:

Level 4, 210 Kings Way
South Melbourne
Victoria

COURSE OVERVIEW

This four and a half day course covers the practical aspects and analysis of helicopter performance, stability and control. The considerations that designers face during the preliminary design phase, to ensure good performance and good flying qualities, are also discussed. There is a special emphasis on relating helicopter aerodynamics to aeroplane aerodynamics.

Who should attend?

This course is considered vital to any professional engineer or engineering manager who works with helicopters. It is also suitable for fixed-wing engineers or the engineering faculty who wish to obtain a greater understanding of helicopter flight.

Learning Outcomes

- Understand the various aerodynamic and load considerations that affect helicopters
- Analyse helicopter performance
- Participate in the design or modification of helicopters
- Communicate more effectively with operators

Participants will receive a copy of:

Helicopter Aerodynamics Vol I, R. Prouty: a compilation of articles published in Rotor and Wing magazine from 1979 - 1992; and

Helicopter Aerodynamics Vol II, R. Prouty: further articles published by Ray Prouty from 1992 - 2004.

COURSE OUTLINE

Day One

- The hovering helicopter
- Factors affecting hover
- Vertical flight
- Momentum theory of forward flight

Day Two

- Blade-element method in forward flight
- Forward flight computer program
- Estimating performance, preliminaries
- Calculating performance characteristics

Day Three

- Manoeuvring flight
- Rotor flapping characteristics
- Trim and static stability
- Dynamic stability

Day Four

- Aerodynamic design considerations of main rotor
- Airfoils for blades
- Anti-torque systems
- Empennages and wings
- The preliminary design process

Day Five

- Noise
- Vibrations
- Structural loads and component lives
- Helicopter accidents

Registration Form

FOUNDATIONS OF HELICOPTER AERODYNAMICS

12–16 April 2010

\$3,100 + 10% GST (\$3,410 GST Inc)

First Name _____

Surname _____

Company/Military Group/Agency/Organisation _____

Job Title _____

Postal Address _____

Phone _____

Mobile _____

Fax _____

Email _____

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.

Form must be returned to QTT by 12 March 2010

METHOD OF PAYMENT

- Cheque
- Purchase Order No. _____
- Credit Card: Authorisation form available at www.qtttraining.com.au or by ringing +61 3 9694 1084. Please note a 1% surcharge applies to all card payments.
- Please Invoice: For invoice please provide name, full address and contact number.

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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 12 March 2010. Refunds will not be given after 12 March 2010, however for exceptional circumstances some credit may be given towards another QTT course.