

OVERVIEW

'Practical Airframe Fatigue and Damage Tolerance' is a two module, five day course aimed at Stress Engineers, Repair/Design Engineers, Compliance Verification Engineers and Licensed Aircraft Engineers. It shows how fatigue and damage tolerance theory is applied in practice to typical civil aircraft structures.

The first module covers the information required to equip an engineer to carry out fatigue and damage tolerance calculations as an informed member of a supervised team using defined methods and working practices. The workings of the common program types will also be explained so that these are no longer 'black boxes'. The material has been updated to cover the on-going incorporation of Aerospatiale fatigue methods by Airbus UK via the ISAMI computer program.

The second module gives a good understanding of some of the more involved topics, such as spectrum generation, damage tolerance calculation methods as applied to single load path/multiple load path structure and its application to typical structural configurations. This will allow engineers to have a good understanding of the more detailed procedures that are used in the calculations and to begin to function independently.

DATES (all times 9am to 4.30pm, please arrive at 8.30am for registration on day 1)

Code PDT2012

Module A (day 1) – Mon 14 May 2012
Module A (day 2) – Tues 15 May 2012
Module A (day 3) – Wed 16 May 2012
Module B (day 4) – Thur 17 May 2012
Module B (day 5) – Fri 18 May 2012

The modules can also be delivered in-house – please contact training@sigmak.ltd.uk, fill out a contact form at www.sigmak.ltd.uk or telephone 01292 571345 to discuss your requirements.

COST

If taken as individual modules (excluding VAT):

Module A - £730 per person (duration: three days)
Module B - £485 per person (duration: two days)

Discount for both modules booked together (excluding VAT):

Modules A and B – £1105 per person (duration: five days)*

A paper copy of the presentation material will be provided, with a full set of bound notes for delegates who sign up for the full course, as indicated (*). All prices include morning/afternoon tea/coffee and biscuits, and a buffet lunch (please notify special dietary requirements in advance).

An additional 10% discount will be given to delegates who book Modules A and B together and who pay before March 1 2012, i.e. Modules A and B for £999 (excluding VAT).

FEEDBACK

The course has been run six times now (three times as an open course and three times in-house), and the average score is 4.5 out of 5.0.

PLACES

Please note that because of the emphasis on 'hands on' calculations, places will be limited to 18 per module.

BOOKING CONDITIONS

Please send in the reservation form overleaf. If a place is available, an invoice will be sent out and this represents confirmation of the booking. Payment is required four weeks before the start of the course. Cheques should be drawn on a UK bank in £ Sterling and made payable to Sigma K Ltd.

Cancellation charges depend upon the notice given: Full refund if over 56 days notice; 50% refund 28 days – 56 days; 25% refund 14 days – 28 days; 0% refund less than 14 days.

Transfers to later dates will only be possible if arranged more than eight weeks before the start of the course, otherwise cancellation charges will apply. Substitutions are acceptable at no additional cost.

PRESENTER

Les Bent BSc MSc CEng MIMechE has over 25 years of practical experience in fatigue and damage tolerance analysis, research, testing and failure investigation. This followed a BSc (Hons) in Metallurgy from the University of Manchester and includes an MSc in Aerospace Materials Engineering from the Cranfield Institute of Technology. Starting as a Metallurgist with Renault Truck Industries Ltd, he subsequently worked at British Aerospace Regional Aircraft (Woodford), in both the Research and Structures Departments before moving to the Jetstream Aircraft (Prestwick) Stress Office. After a period of contract work as a Stress Engineer, including a year at Boeing Commercial Aircraft at Renton, he set up Sigma K Ltd in 2000, where customers include Goodrich Aerospace in Prestwick, Singapore and Alabama, BAE SYSTEMS Regional Aircraft, Atkins Aerospace, Spirit Aerosystems, Assystem UK, Morson Projects, Inter-Tec Services and Strand Engineering, amongst others.

LOCATION

The course will take place at the Fairfield House Hotel, in Ayr (KA7 2AS), which is very close to Ayr town centre and the train and bus stations. Please contact us if you need any information regarding accommodation in Ayr or the surrounding area.

There are regular train and bus services between Ayr and Glasgow. A train service also runs from Ayr and Troon to Stranraer, for ferries to Ireland.

Alternatively by air, Glasgow Airport (31 miles or 50 km) has scheduled services to airports in the UK, other European countries and North America. Passengers arriving at Glasgow airport should take a taxi to Paisley Gilmour Street rail station where they can connect with a train to Ayr.

Prestwick Airport (5 miles or 8 km) has scheduled services to London, Dublin and other European cities.

Practical Airframe Fatigue and Damage Tolerance – the course

“Fantastic course – the perfect balance of problems to teaching. The problems at the end really brought it all together. Your thorough knowledge of the subject really showed. Thanks for passing it on.”

Fiona Scolley, Lead Stress Engineer, Assystem UK Ltd (November 2010)

“An extremely good course – very practical.”

Dave Carter, Stress Engineer, Assystem UK Ltd (November 2010)

“The course covers the fundamentals with detailed illustrations and examples which help to create a solid base to understand the various aspects of crack growth and specific details more easily. I am specifically happy with the simple and easy to understand explanations to various questions raised during the course.”

Sachin Kumaz Rostogi, Stress Engineer, Goodrich IDC (April 2011)

“Training instructor has good practical knowledge and experience.”

Vimal Kumar Jaiswal, Stress Engineer, Goodrich IDC (April 2011)

“Personally the course has been very good to consolidate my understanding and experience. I have learnt hand checks and a feel for things which were missing in my bag. Many thanks for a good course.”

Yogish B. E., Aerospace Engineer, Atkins Aerospace Bangalore (April 2011)

“Overall very good and very well presented.”

Scott Ferry, Consultant Engineer, Airframe Designs Ltd (May 2011)

“Excellent hand-outs and worked examples.”

Andrew Somers, Stress Engineer, Atkins Aerospace Glasgow (May 2011)

“F&DT is a difficult subject to pitch right. Les has done this extremely well.”

Rob Smith, Lead Stress Engineer, Spirit AeroSystems (May 2011)

“Good knowledge of subject well communicated.”

Andrew Thomas, Lead Stress Engineer, Spirit AeroSystems (May 2011)

Practical Airframe Fatigue and Damage Tolerance – the book

“I have to say I'm very impressed. This should be standard reading for any young engineer like myself ... I'm pleased to see it is full of clear explanations and the calculations are used to provide supporting evidence and reference information. Your service has been excellent and I appreciate it very much”

Tyrel Beede, Irvine, California

See also <http://mechanicalhacks.wordpress.com/2011/03/01/bearing-loads-cosine-and-gencoz-distributions/>

RESERVATION FORM

Practical Airframe Fatigue and Damage Tolerance Code PDT2012 (14 – 18 May 2012)

Delegate's details (if more than one, please supply separately)

Title Mr Mrs Miss Dr Other (please specify)

First name _____ Surname _____

Job Title _____

Email _____

Organisation details

Organisation name _____

Organisation address

Line 1 _____

Line 2 _____

Town _____ County/Region _____

Country _____ Postcode/Zipcode _____

Contact telephone number _____

I would like to make a booking for the following delegate(s) on the following module(s), subject to availability (please tick as applicable and enter the number of delegates)

	Module(s)	Number of Delegates	Date	Cost (£) (exc. VAT)
<input type="checkbox"/>	A	_____	14 – 16 May 2012	730
<input type="checkbox"/>	B	_____	17 – 18 May 2012	485
<input type="checkbox"/>	A+B	_____	14 – 18 May 2012	1105

I have read and I accept the Booking Conditions and understand that upon confirmation of this booking by invoice, I/the organisation will become liable for all charges including cancellation and transfer charges if applicable. I authorise you to raise an invoice for the above booking.

Authorised _____ Signed _____ Date _____

Please return to: PDT2012, Sigma K Ltd, 44 Hole Road, Coylton, KA6 6JL, or email a pdf copy of the form.


The logo for Sigma K, featuring the word "sigma" in a bold, lowercase, sans-serif font, followed by a white circle containing a black uppercase letter "K".

sigma^K

t: 01292 571 345

e: lesbent@sigmak.ltd.uk

www.sigmak.ltd.uk

A diagram showing a blue, irregularly shaped object with a small yellow and red crack at its center. Two thin black lines extend from the crack towards the bottom left, pointing towards the main text area.

**Fracture mechanics in complex
geometry/stress fields using boundary
element and finite element analysis.**