



This Month

WINGTIP SAILS

A.1 FLIGHT TEST

Only Pan Am London to Dep Flt. No. Aircraft Frequency New York 1100 1335 PA101 747 Daily 1330 New York 1605 PA001 747 Daily New York 1630 1905 PA103 747 Daily Detroit 1040 1610 PA107 747 Daily Honolulu 1315 2305 PA125 747 Daily PA001 1330 2050 Houston 747 Daily Los Angeles 1400 1705 PA121 747 Daily 1025 PA123 Portland 1455 Daily San Francisco 1315 1615 PA125 747 Daily 1025 1205 PA123 747 Seattle Daily 1040 1400 Washington PA107 Daily

Not surprising, seeing we own the world's largest fleet of them.

Anyone who makes regular trips across the Atlantic will know that it's worth choosing an airline whose people care about your comfort.

With Pan Am's people you get a 747 every time. And nothing less.

Not to mention a superb choice of food in Economy. An exclusive First Class Dining Room. Two great movies. Eight stereo channels. (A small charge has to be made for these to comply with international regulations.)

And last but not least, a service that only Pan Am's people can offer.

If you're making a trip to the States, ask your Travel Agent to book you on a Pan Am 747. And fly out with the world's most experienced airline.



Pan Am's People. Their experience makes the difference.

VOLUME 82 NUMBER 813 SEPTEMBER 1978

THE onautical

The Helicopter Association of Great Britain

Published Monthly

contents

Editor: G.		
Jay	Assistant ff, David	

Secretary of the Society: E. M. J. Schaffter, MA, CEng, MRAeS. MHAES. 4 Hamilton Place, London W1V OBQ. Tel: 01-499 3515. Telegrams: Didaskalos, London, W1.

Reproduction of any of the papers published in this journal is not permitted without the written consent of the Editor.

None of the papers or paragraphs must be taken as expressing the opinion of the Council unless otherwise stated.

Advertisements: J. G. Heller, Cheiron Press Ltd, 8/10 Parkway, London NW1 7AD. Tel: 01-267 1285

Printed by Lewes Press Ltd, Lewes, Sussex, England.

Subscriptions: £43.00 per annum,

Single copies, including back numbers: £4.00.

Published by The Royal Aeronautical Society, 4 Hamilton Place, London W1V OBQ, England.

ISSN: 0001-9240

E. S. Moult		
DE HAVILLAND I	ENGINES—SOME RECOLLECTIONS	369

JOURNAL

A. M. McVitie FLIGHT TESTING THE CRANFIELD A.1 381

J. J. Spillman		
THE USE OF WING TIP	SAILS TO REDUCE VORTEX DRAG	387

TECHNICAL NOTES

F. W. Williams and C. J. Wright A design-orientated alternative to finding the initial buckling loads of prismatic plate assemblies	399

Library, Reviews, Additions and Reports 403

Cover picture:

Cover picture:

Competition aerobatics are among the most demanding of applications for light aircraft as the aeroplane spends much of its working life operating close to the boundaries of its flight envelope. In this issue A. M. McVitie discusses some of the problem areas met during the flight testing of the Cranfield A.1, seen on the cover at Farnborough.

Exciting aerospace projects!

Are you up to them?

Westland Helicopters are about to start work on another exciting design and build project for a new large helicopter.

For this and our other new technology projects, we need high-flying, high calibre **designers and engineers**, avionics and electronics talents with a taste for the spirit of innovation at both our Yeovil and Weston-super-Mare locations.

These enormously exciting projects offer pioneer opportunities unavailable elsewhere in Britain.

For further information and confidential application form write to the: Director of Advanced Engineering, Westland Helicopters Limited, Yeovil, Somerset.

Westland worth working for!