

The Journal of

THE HELICOPTER ASSOCIATION OF GREAT BRITAIN

CONTENTS include

Problems associated with the Strength Assessment
of Rotor Blades by V A B Rogers

Military Helicopter Operations in Malaya
by W R Williams

Helicopter Operations at Port Said by J F T Scott

LONDON

4, THE SANCTUARY,
WESTMINSTER S W 1

Vol 11 No 4 AUGUST, 1957



*Photograph by courtesy of
Helicopter Services Ltd*

HELICOPTER ROTOR BLADES...

*and materials for blade manufacture
produced to B C A R by*

HORDERN RICHMOND LTD

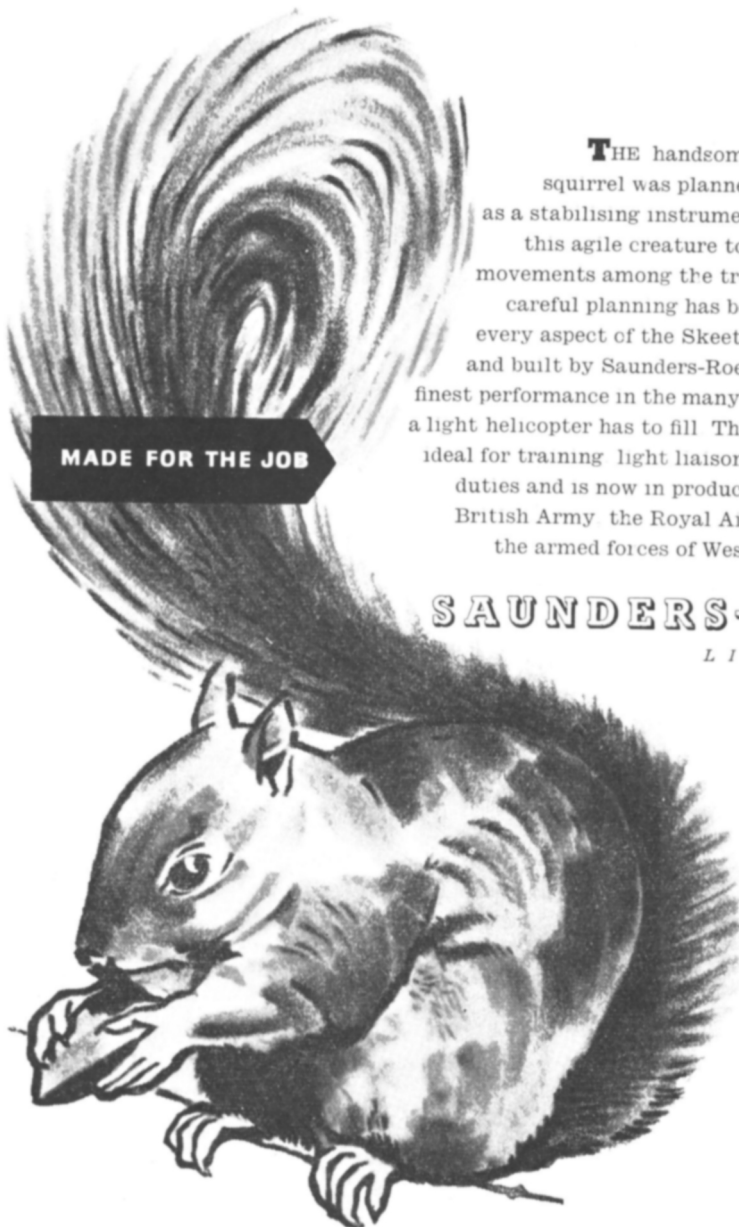
Haddenham, Bucks Tel Haddenham 444/446

- Makers of tail rotor blades for Bristol and Westland Helicopters
- Suppliers of Hy-du-lignum for main rotor blades of Bristol Sycamore and 173 helicopters and for tail rotors of the Saunders Roe Skeeter
- AGENTS FOR BELL and AGUSTA-BELL helicopters in the U K and Republic of Ireland



BELL & HILLER BLADES TO B C A R

A complete type-testing programme using the company's Bell 47G helicopter has been satisfactorily concluded securing A R B approval for Bell and Hiller rotor blades manufactured by the company under licence from the Bell Helicopter Corporation U S A



MADE FOR THE JOB

THE handsome tail of the squirrel was planned by nature as a stabilising instrument, enabling this agile creature to balance its movements among the trees. Equally careful planning has been given to every aspect of the Skeeter, designed and built by Saunders-Roe to give the finest performance in the many roles which a light helicopter has to fill. The Skeeter is ideal for training, light liaison and A O P duties and is now in production for the British Army, the Royal Air Force and the armed forces of West Germany.

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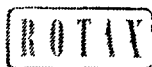
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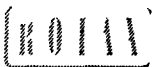
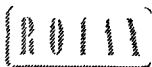
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Something to depend on...



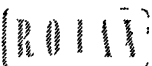
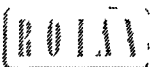
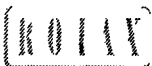
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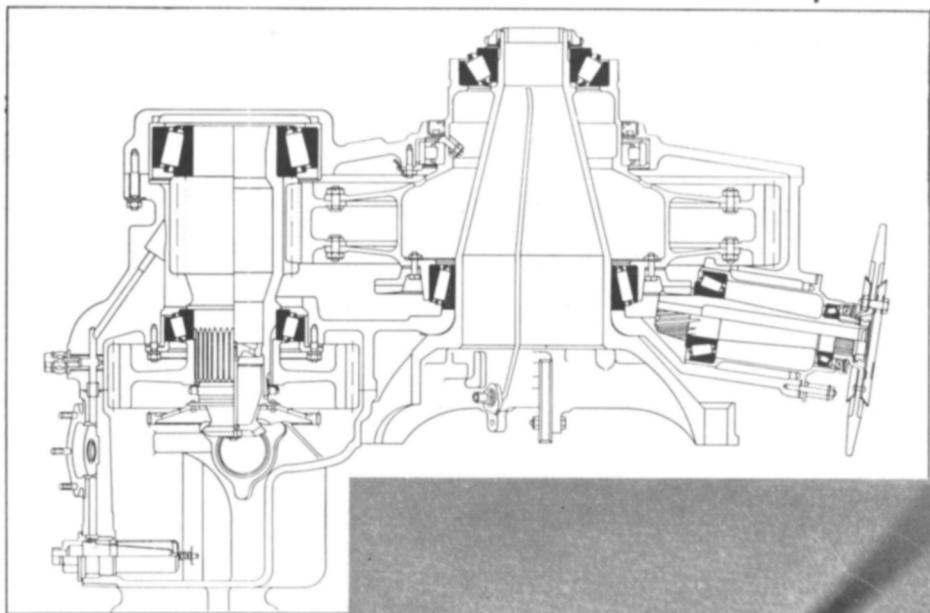
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On the BRISTOL 'SYCAMORE' helicopter



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They are extensively used on various makes and designs of helicopter.

All Bristol Sycamores—and well over 100 have so far been built—have Timken bearings in their gear boxes.



The sectional drawing shows the arrangement of the Timken bearings on the gearing to the main and tail rotors, and on the sleeve carrying the main rotor. The upper Timken bearing carries the entire weight of the helicopter, in addition to journal loads.

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tapered-roller bearings

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Powered by two Gazelles

The twin rotor Bristol 192 is powered by two 1 300 s h p N Ga 2 free turbine GAZELLES mounted vertically and with an emergency rating (applicable to single engine operation) of 1 650 s h p. The GAZELLE can be installed in any position between vertical and horizontal.

Powered by two Elands

This Fairey Rotodyne convertible helicopter is powered by two 3 500 e h p ELAND propeller turbines each with an auxiliary compressor mounted co-axially at the rear which supplies compressed air to combustion chambers at the rotor tips for vertical flight.



Powered by two Elands

The 5-blade rotor of the new Westland Westminster helicopter will be powered by two 3 500 e h p ELANDS. Because of its higher power, low cost and ease of maintenance, the ELAND offers new standards of economy for both the airline operator and the air traveller.

Powered by one Gazelle

A single 1 450 s h p N Ga 13 GAZELLE powers the single rotor Westland Wessex in production for the Royal Navy. This rugged engine is designed to work for long periods between overhauls and to withstand the heavy demands of Service operation.



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The opinions expressed in papers read before the Association and in the discussions also recorded in this Journal are not necessarily those of the Executive Council or of the Association as a whole

CONTENTS

	<i>Page</i>
PROBLEMS ASSOCIATED WITH THE STRENGTH ASSESSMENT OF ROTOR BLADES	
By V A B ROGERS	189
DISCUSSION	222
MILITARY HELICOPTER OPERATIONS IN MALAYA	
By W R WILLIAMS	237
DISCUSSION	250
HELICOPTER OPERATIONS AT PORT SAID	
By J F T SCOTT	256
HELICOPTER RALLY AND GARDEN PARTY	258
TWELFTH ANNUAL GENERAL MEETING OF THE HELICOPTER ASSOCIATION OF GREAT BRITAIN	260
HONORARY OFFICERS	262

OBJECTS OF THE ASSOCIATION

The objects of the Association are to collect compile and disseminate information of a technical and semi technical nature pertaining to Helicopters and all other types of Rotating Wing Aircraft. The Association aims to work in close co operation with existing Aeronautical Bodies on matters affecting its objects and it may act as an Advisory Body in the promotion of legislation calculated to be of benefit to the development of Rotating Wing Aircraft

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The Bristol Sycamore single engined five seat helicopter. Sycamores operating in a dozen countries have built up an enviable reputation for reliability and serviceability. The Sycamore is distinguished by its exceptional performance at high altitudes and in high temperatures.

GERMANY SELECTS BRISTOL SYCAMORES

Bristol Sycamore Helicopters are coming into service with the German Army, Navy and Air Force on ambulance, search and rescue, and transport duties.

An order for fifty Sycamores has been placed by the Federal German Ministry of Defence with Bristol Aircraft Limited. Deliveries have already begun. Since the Sycamore was chosen after

exhaustive evaluation trials, its selection is a tribute to its versatility and reliability.

BRISTOL
→
Sycamore

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