The Journal of

THE HELICOPTER ASSOCIATION OF GREAT BRITAIN

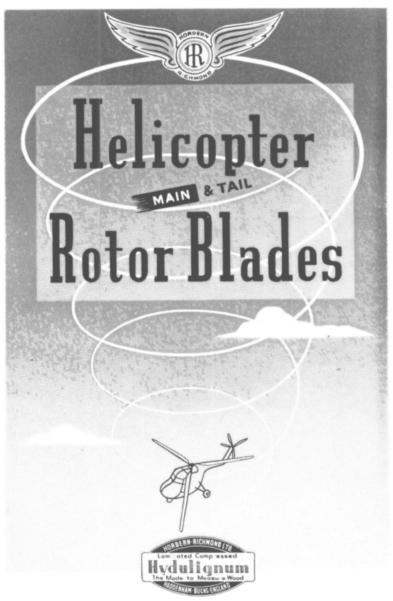
CONTENTS include

The Possibility of the Flight Simulator as a Training Aid to Helicopter Pilots By Norman Hill and Peirre de Guillenchmidt

Bristol Type 173 Design Development and Experiences By Raoul Hafner

LONDON
4, THE SANCTUARY,
WESTMINSTER, S W 1

Vol 8 No 4 APRIL, 1955



HORDERN-RICHMOND

LIMITED

HYDULIGNUM WORKS, HADDENHAM, BUCKS, ENGLAND TELEPHONE AYLESBURY 1100 1102 TELEGRAMS WINSTIX HADDENHAM BUCKS



It all hangs on ELEKTRON

ELEKTRON

The top gear-box casting-in Elektron Z5Z to DTD 721Aof the Westland S.55 helicopter carries a maximum tensile loading of 7,500 lb, which is the all-up weight of the aircraft.

With acknowledgements to Westland Aircraft Ltd. J. Stone & Co. (Charlton) Ltd.





Magnesium Elektron Limited

CLIFTON JUNCTION, MANCHESTER LONLON OFFICE: 21, ST. JAMES'S SQUARE S.W.1.

Write for our NEW booklet on "DESIGN"



SAUNDERS-ROE LTD (HELICOPTER DIVISION) - EASTLEIGH - SOUTHAMPTON



The ALVIS LEONIDES Helicopter
Engine as installed in the Westland
Sikorsky Dragonfly has proved its endurance under the most exacting service
conditions in Malaya 520 b h p,
9-cylinder air-cooled radial engine
Weight complete 645 lb Power, weight
ratio 1 24 lb per b h.p
Overall diameter 41 5 inches



AMS LEONIDES

Keeping abreast of modern development

DOWTY

UNDERCARRIAGES

HYDRAULIC AND ELECTRO HYDRAULIC COMPONENTS

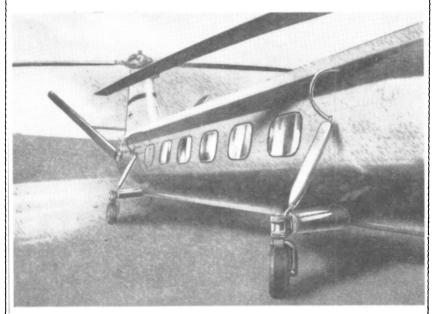
ELECTRICAL EQUIPMENT

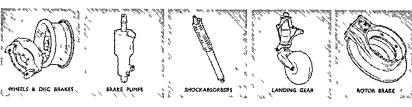
FUEL SYSTEMS
FOR GAS TURBINES

DOWTY EQUIPMENT LIMITED CHELTENHAM

Member of the DOWTY Group







The Bristol Type 173 uses British Messier Landing Gear Equipment

BRITISH MESSIER LIMITED

GLOUCESTER ENGLAND

R/BM 006









The Journal of

THE HELICOPTER ASSOCIATION

OF GREAT BRITAIN

Offices	4.	The	Sanctuary.	Westminster,	S	w	1

Tel **Abbey 5160**

PRICE

10/6

VOL 8 No 4 April 1955 President Mensforth CBI 'MIMechl FRAeS M A MIPL Vice Presidents J C Weir CM (CB I F R Ae S Norman Hill AM I Mech I ARAeS Chairman G S Hislop I h D B Sc (Γng) ARTC M I Mech I THI COUNCIL

B H Arkell A R Ae S
R A C Brie A I R Ae S AFIAeS Colin Cooper O L L Fitzwilliams B A
A F R Ae S
I C Frise B Sc F R Ae S
A I I Ae S W R Cellatly DISCUSSION Hafner F R Ae S
I Meacock A F R Ae S
O Hara M A (Cantab)
M A (Ldin) J W Richardson
H Roberts Ph D B Sc D I C
A F R Ae S A M I Mech F
N I Rowe C B I D I C
B Sc A C C I M I Mech F
A I I Ae S
A I I Ae S W Richardson DISCUSSION M Inst T A All I Ae S
I R Ae S
J S Shapiro Dipl Ing
AFR Ac S
R H Whitby D I C A R C Sc
B Sc AF K Ae S Hon Secretary J W Richardson Hon Treasurer W G I eslie ACIS 4sst Secretaries Miss P Chute Miss J St George BOOK REVIEWS Lecture Sub Committee
J A J Bennett D Sc Ph D
F R Ae S (Chairman)
R A C Brie A F R Ae S
A F I Ae S
M I Mech F
T T Meacock A F R Ae S Notices Journal Hon Editors Administrative C Colin Cooper Technical D M Davies MA
R H Whitby DIC ARCSC
BSc AFRAeS

CONTENTS

Page THE POSSIBILITY OF THE FLIGHT SIMULATOR AS A TRAINING AID TO HELICOPTER PILOTS By Norman Hill and Peirre de Guillenchmidt 133 147 BRISTOL TYPE 173 DESIGN, DEVELOP-MENT AND EXPERIENCES By RAOUL HAFNER 158 186 MEMORIAL TO HENRY ALAN MARSH, AFC, 192 AFRAeS BIOGRAPHICAL NOTE 193 1955 Association Brains Trust 193 Additions to the Association's Library 194 195 196

OBJECTS OF THE ASSOCIATION

The objects of the Association are to collect compile and dis seminate 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

Auditors W B Keen & Co



SYCAMORE

THE Bristol Sycamore Mark 4 helicopter is here shown equipped for search and rescue duties, for which it has been adopted by the Royal Air Force The hydraulic winch, which is served by a hydraulic pump attached to the drive on the main gearbox, is installed on the side of the fuselage above and immediately aft of the starboard entry, so that the cable hangs directly in front of the opening The intercommunication cable which links the crewman with his pilot during a rescue operation is secured immediately beside the opening, below which is a guard-rail which provides a convenient handgrip when a casualty is brought aboard The canvas screen which covers the aperture during flights to and from the scene of rescue is rolled up above the opening, leaving a completely unobstructed entry. The door sill is flush with the floor, which is level throughout and wholly covered by a rubber drip-tray The three canvas folding seats at the rear of the cabin are shown ready for use, and first-aid equipment is secured to the bulkhead immediately above the seats

THE Buttl AEROPLANE COMPANY LIMITED ENGLAND