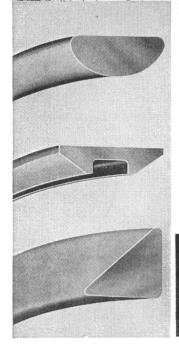
ASTRONAUTICS AND GUIDED FLIGHT SECTION REPRINTS

The following is a list of the Section lectures which have been printed in the *Journal*. Most of them are available as reprints.

Author		Title			Put	olished
Serby, J. E.	Gulded Weapons and Aircraft. Som	e Difference in	Design and	d Development	March	h 1958
Bedford, L. H.	Guidance and Control				May	y 1958
Boswell, R. W. M.	Guided Flight Trials				June	e 1958
Clemow, J.	Problems in the Development of a G	Gulded Weapon			September	r 1958
Farrar, D. J.	The Bloodhound			•••	January	/ 1959
Pateman, J. E.	Inertial Navigation				February	/ 1959
Conway, H. G.	Drone Aircraft			•••	March	1959
Burt, E. G. C.	Theoretical Principles of Guided Mis	sile Systems			August	t 1959
Boardman, F. D.	Basic Principles of Radar with pa	articular refere	nce to Airc	craft and Miss	sile October	r 1959
Nonweiler, T. R. F.	Problems of Interplanetary Navigation	n and Atmosph	eric Re-Entry	<i>,</i>	March	1960
Best, D.	Some Problems of Polar Missile Cor	ntrol	•••		August	1960
Maxwell, W. R. and Young, G. H.	Solid Propellant Rocket Motors				April	l 1961
Symposium (summarised)	The Training of Guided Missiles Eng	gineers	***		July	1961
Smelt, R.	The Agena Satellite and Discoverer	Programme			November	1962
Smith, K.	A Comparison of the Control Problem	ns of Missiles a	nd Manned	Aircraft	March	1962
Neat, W. N. and Page, K. G.	Packaged Liquid Rocket Motors				March	1962
Lane, R. J.	Recoverable Air-Breathing Boosters f	for Space Vehic	cles		June	1962
Symposium	The Economics of Astronautics				June	1962
Biggs, A. G. and Cawthorne, A. R.	Bloodhound Missiles Evaluation		•••		September	1962
Davies, H.	The Design and Development of the Aircraft	Thiokol XLR 9	9 Rocket En	gine for the X-	15 ··· February	1963
Jefferson, G. R.	The Development of Thunderbird				June	1963
Stauff, E.	Development of Guided, Tactical Miss	siles in France			August	1963
Francis, R. H.	The Development of Blue Steel			***	May	1964
Williams, W. C.	Technical History of the Mercury Pro	ogramme—A D	iscussion		December	1964
Smith, T. L.	RAE Guided Weapon Test Vehicles in	n the 1950's			February	1965
Lines, A. W.	Design of Spacecraft for Experiments	in the ESRO S	cientific Prog	ramme	November	1965
Shepherd, Capt. C. W. H. and Harrison, J. E. A.	The UK Polaris Project				September	1966
Dorling, E. B. and Hickman, P. L. V.	Symposium—Trials Data and their Han	dling	•••		November	1966
Symposium	Symposium on Management		•••		March	1967
Tokaty, G. A.	Aerospace Research and Its Relation ments	to Universities	s, Industry a	nd the Establis	sh- October	1967
Pardoe, G. K. C.	Some Technical and Management Cor	nsiderations in	European Sp	ace Programm	es December	1967
Hume, C. R. and Ducamus, P. M.	Symposium—A Progress Report of th	e ESRO II Pro	gramme		January	1968
Flemming, N. C.	Functional Requirements for Research	n/Work Submer	sibles		February	1968
Symposium	Simulation and Control of Guided We	eapons			April	1968
Symposium	ELDO				July	1968
Symposium	Commercial Applications of Satellites	for Europe			April	1969
Cadoux, J. E.	The Air-to-Air Missile Matra 530				May	1969
Jacob, J. E. B.	Vigliant: A Portable Anti-Tank Weapon	n for Infantry (Jse		May	1969
Pout, H. W.	The Evolution of Gulded Weapons				June	1969
Symposium	Management Techniques of Guided W	Veapon Develor	ment		January	1970



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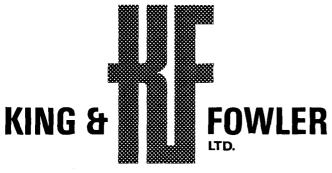
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4 [THE AERONAUTICAL JOURNAL OF THE ROYAL AERONAUTICAL SOCIETY

The Aeronautical Journal RAeS September 1970

ROWE, N. E.

Technical Development in Aviation

The definition, nature, importance and changing objectives of technical development in aeronautics is covered. Also the basis of future development in air transport, the problem of international competition, operational efficiency, VTOL, development in the defence field and high level technology as a national aim.

The Aeronautical Journal RAeS September 1970

FREE, F. W.

Russian Helicopters

A short historical survey is made of the development of the helicopter in Russia. The helicopters produced by the two main design and production teams, Mil and Kamov, are reviewed and mention is made of some of the tasks to which these helicopters are used in agriculture, forestry, construction work and scheduled airline operation. The Russian approach to civil certification is discussed and some comparisons made between their requirements and those of the UK. Finally an overall impression is given of the Russian helicopter industry and its likely developments in the future.

The Aeronautical Journal RAeS September 1970

BERTIN, J

Hovercraft

During the fall of 1968 intensive testing of the two Naviplanes N 300 at sea confirmed the value of the Bertin-Sedam flexible skirt concept. Speeds ranging from 60 to 65 kt have been easily obtained, also the platform stability which is inherent to the design has been fully demonstrated. During the 1969 summer season the two machines made their first commercial schedule service in the Mediterranean Sea from St. Tropez to San Remo with good success. These results made it possible to launch the construction by Sedam of new machines at smaller scale, N 102 and MN 3D1 and at larger scale, N 500 and N 700. Also small scale models suggested to Sedam that much higher speeds in the order of 105 kt per hour were possible for larger machines and especially for ocean going air cushion vehicles. All those realisations will need a certain evolution of the design but will keep all the fundamental advantages of the concept. This evolution will be shown with examples of current projects under way.

The Aeronautical Journal RAeS August 1970

PFLEIDERER, K.

Review of Bölkow Activities in the Rotorcraft Field

The first part of the paper reviews the history of rotary wing research and development activities at Messerschmitt-Bölkow-Blohm. In the second part major technical problems and results are reviewed. Performance comparisons between shaft and reaction driven rotor systems are presented. Some results of fibre-reinforced blade technology are shown and dynamic and aerodynamic, as well as flight mechanics and controllability for various rotor systems, are summarised.

The Aeronautical Journal RAeS September 1970

BELL, R. A.

Passenger Seaplanes and Their Bases

The history of the seaplane is almost as old as flying itself, dating back to man-carrying box kites only two years after the Wright brothers memorable flight at Kittyhawk. The First World War greatly increased the pace of development which continued to its peak just before the Second World War, when the flying boat became a mainspring in the opening of routes to the Empire. During the Second World War seaplanes played a major part in the Allied War Effort but decline was already evident, and increased during the early postwar years. This paper attempts to analyse the seaplane's virtues and drawbacks, reviews its past and attempts to anticipate its tuture. The problems and characteristics of the seaplane base are also examined together with some past solutions.

The Aeronautical Journal RAeS September 1970

BECKER, E.

Relaxation Effects in Gas Dynamics

In many high speed gas flows the thermodynamic state of individual gas particles changes so rapidly that the time-scale of the change is comparable with the time-scale of internal rate processes in the gas. Such rate processes may be, for example, relaxation of vibrational degrees of freedom, chemical reactions proceeding at a finite rate, etc. The effects of internal rate processes on the flow field are studied in "relaxation gas dynamics". This rather new branch of gas dynamics has rapidly developed during the past decade. Some of these developments are the subject of this paper.

The Aeronautical Journal RAeS September 1970

DE FERRANTI, S.

instruments and Electronics in Aviation

For aviation to become commercially usable and reliable, in addition to the development of aerodynamics of reliable structures and reliable engines, there had to be the development of instruments, communications and navigational aids. The modern aircraft would still be of very little use in the commercial sense without the instrument communication, and navigational aids that enable it to operate regularly, and substantially independently of the weather. The intention in this lecture is to trace some of the history of instruments and electronics in aviation and the reasons for their development.

The Aeronautical Journal RAeS September 1970

PANKHURST, R. C.

The Slug, an Erstwhile Unit of Mass

The general adoption of the International System of Units (SI) in engineering as well as in science makes this the time to relinquish the slug, an engineering unit of mass. Seldom has a convenient unit proved so contentious. This note sets out salient points in the controversy, and indicates basic issues which could scarcely have been appreciated universally at the time.

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