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## Sealing Rings

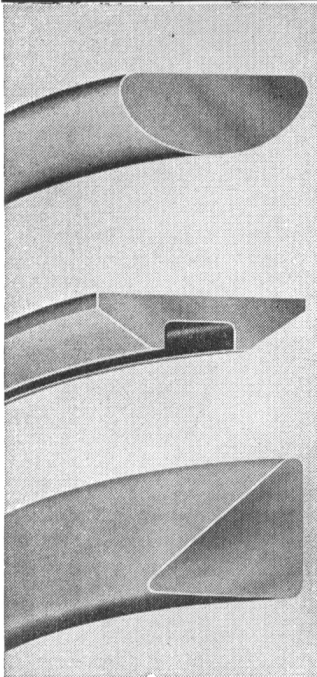
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### PERFORMANCE:

Type Certification Preliminary Data  
 Standard Air/Gross Weight  
 Stalling speed ..... 54 mph  
 Cruising speed ..... 108 mph  
 Maximum speed ..... 125 mph  
 Sea level climb ..... 1050 fpm  
 Range (with reserve) 350 miles  
 Takeoff run (land) ... 400 feet  
 Landing roll (land) ... 350 feet  
 Takeoff run (water) ... 600 feet  
 Landing run (water) ... 450 feet

### POWERPLANT:

Lycoming O-320-A 3B engine  
 150 horsepower @ 2700 rpm.  
 Hartzell constant speed propeller.

### STANDARD EQUIPMENT:

Constant speed propeller;  
 Single Controls; Airspeed;  
 Altimeter; Manifold pressure gauge;  
 Engine instruments;  
 12 volt electrical system; Map pockets;  
 Adjustable seats;  
 Water rudder; Manually retractable landing gear (TEAL Amphibian);  
 Toe brakes (TEAL Amphibian).

### DIMENSIONS:

Span ..... 32 ft.  
 Length ..... 23 ft. 7 in.  
 Height ..... 8 ft. 11 in.  
 Tread ..... 8 ft. 3 in.  
 Wing Area ..... 157 sq.ft.

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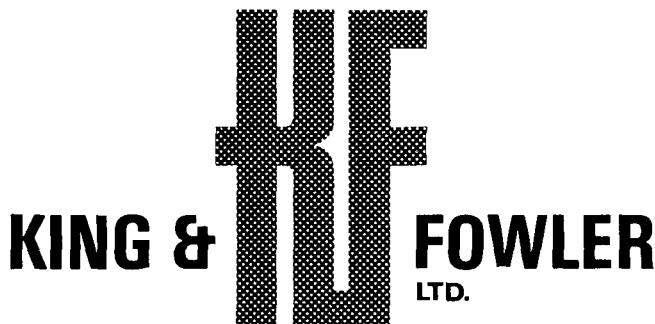
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The Aeronautical Journal RAeS September 1970

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 future. The problems and characteristics of the seaplane base are also examined together with some past solutions.*

**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**

**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**

**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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## AIR LAW GROUP REPRINTS

The following is a list of the Air Law Group lectures which have been printed in the *Journal* since the beginning of 1967. Most of them are available as reprints.

<i>Author</i>	<i>Title</i>	<i>Published</i>
A Discussion	<b>Compensation for Airline Passenger Death and Injury. The Future of the Warsaw Convention</b> ... ..	July 1967
Hildred, Sir William	<b>The First Beaumont Memorial Lecture</b> ... ..	May 1968
Johnson, D. H. N.	<b>The Legality of Modern Forms of Aerial Warfare</b> ... ..	Aug. 1968
Harris, J. D.	<b>Airworthiness Regulations—National and International</b> ... ..	June 1969
Martin, P.	<b>In Defence of Private, Business and Aerial Work Flying</b> ... ..	May 1969
Vallat, Sir Francis	<b>The Outer Space Treaties</b> ... ..	Sept. 1969
A Symposium	<b>Facilitation</b> ... ..	Oct. 1969
A Discussion	<b>Hijacking—Why Governments Must Act</b> ... ..	Feb. 1970
Tymms, Sir Frederick	<b>ICAO—Its Origin and Development. A Personal View</b> ... ..	April 1970
Wheatcroft, S.	<b>The Influence of Operational and Technical Factors on Air Transport Regulation</b> ... ..	Aug. 1970

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