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ROYAL AIRCRAFT ESTABLISHMENT

SEPTEMBER

TECHNICAL REPORT No. 65204

1965



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**LIST OF STRUCTURES  
DEPARTMENT REPORTS WITH  
ALPHABETICAL LIST OF AUTHORS  
MARCH 1947 - AUGUST 1964**

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ROYAL AIRCRAFT ESTABLISHMENT

Technical Report No.65204

September 1965

⑦ LIST OF STRUCTURES DEPARTMENT REPORTS WITH  
ALPHABETICAL LIST OF AUTHORS MARCH 1947 - AUGUST 1964

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[C-MHA]

⑨ Technical rept.

⑪ Sep 65

⑫ 58 p.

SUMMARY

⑭ TR-65204

This report gives a complete list of Reports issued by Structures Department (Nos.1-297 inclusive) together with an alphabetical list of authors and co-authors.

Details of external publication are given where appropriate. Later Reports issued by Structures Department are in the R.A.E. Technical Report 64000 series.

The Security classification is that current at the present date, and is not necessarily the same as was operative at the time of issue of the particular reports.

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No.	Title of Report	Author(s)	Date	Security	External Publication
1	Research work in aircraft structures.	P.B. Walker	March 1947	U	Aero Research Council. R&M No.2327.
2	Sandwich construction. A practical approach for the use of aircraft designers.	D. Williams	April 1947	U	Aero Research Council. R&M No.2466.
3	Landing of an aircraft on a suspended sheet.	J. Taylor	June 1947	U	Aero Research Council. R&M No.2574.
4	Experimental verification of the photo-elastic stress values in the interior of a Catalin model when using the stress freezing method.	W.A.P. Fisher	July 1947	U	
5	The structural aspects of propeller design.	L.H.G. Sterne	July 1947	U	
6	The effect of uniformly spaced flexible ribs on the stresses due to self-equilibrating systems applied to long thin walled cylinders.	E.H. Mansfield M. Fine	Aug. 1947	U	Aero Research Council. R&M No.2832.
7	Experimental investigation into plate web spars under shear. Part III - spar with 16 swg web.	F. Crowther N. Sanderson	Feb. 1948	U	
8	Experimental investigation into plate web spars under shear. Part IV - Destruction tests on spars with 24, 20 and 16 swg webs.	F. Crowther N. Sanderson	March 1948	U	
9	Aileron reversal and wing divergence of swept wings.	E.G. Broadbent Ola. Mansfield	Sept. 1947	U	Aero Research Council. R&M No.2817.
10	Interim report on results obtained from V-g recorders fitted to Meteor III aircraft.	D.T. Jones	Oct. 1947	U	
11	The diffusion of load into a semi-infinite sheet. (Part I)	E.H. Mansfield	Nov. 1947	U	Aero Research Council. R&M No.2670.

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No.	Title of Report	Author(s)	Date	Security	External Publication
12	Generalised Fourier Series and the roots of the governing transcendental equations $\tan \left\{ \frac{r + Cr}{\cot} \right\} = 0$	E.H. Mansfield	Dec. 1947	R	
13	The effect of spanwise rib-boom stiffness on the stress distribution near a wing cut out.	E.H. Mansfield	Dec. 1947	U	Aero Research Council. R&M No.2663.
14	Some notes of the flapping motion of rotor blades.	J.B.B. Owen	Dec. 1947	U	Aero Research Council. Current Paper No.1.
15	Prediction of wing structure weight.	F. Grinsted	Jan. 1948	R	
16	Report of R.A.E. advanced bomber project group.	Staff of R.A.E.	Feb. 1948	R	
17	The dynamic landing loads of flying boats with special reference to measurements made on Sunderland T.X.293.	A. Burns A.J. Fairclough	Feb. 1948	U	Aero Research Council. R&M No.2629.
18	Comparative flutter tests on 2, 3, 4 and 5 blade propellers.	H.G. Ewing J. Kettlewell D.R. Gaukroger	March 1948	U	Aero Research Council. R&M No.2634.
19	Theoretical investigations of ternary lifting surface - control surface - trimming tab flutter and derivation of a flutter criterion.	H. Wittmeyer	Oct. 1948	U	Aero Research Council. R&M No.2671.
20	The relationship of achieved maximum speeds to service maximum speed limitations for some service aircraft.	D.T. Jones	March 1948	U	
21	Technical investigation into an explosion of German 109/501 A.T.O. unit at Westcott on November 14th, 1947.	Members of the R.A.E.		R	

No.	Title of Report	Author(s)	Date	Security	External Publication
22	Torsional vibration characteristics of Centaurus VIIC Engine.	M.O.W. Wolfe E. Downham	April 1948	R	
23	Influence of thickness chord ratio and aspect ratio on weight of aircraft, applied to a bomber specification.	J. Taylor	May 1948	U/C	
24	Simple formulae for predicting the weights of wing, fuselage and tail unit structures.	F. Grinsted	May 1948	R	
25	Speeds and normal accelerations of Boeing Clipper aircraft on North and South Atlantic routes.	D.T. Jones	May 1948	U	Aero Research Council. R&M No.2633.
26	Mechanical vibration and aero-elasticity.	P.B. Walker	May 1948	U	Journal Royal Aeronautical Soc. October 1946.
27	The diffusion of load into a semi-infinite sheet. Part II.	E.H. Mansfield	June 1948	U	Aero Research Council. R&M No.2670.
28	Empirical formulae for moments of inertia of aircraft.	Staff of Structures Dept.	June 1948	U	
29	Potentialities of research into detail design.	J. Taylor	June 1948	R	
30	Load diffusion at an inter spar opening - theoretical methods of analysis compared with strain measurements on a large wing.	D.C. Allen	June 1948	U	Aero Research Council. R&M No.2664.
31	The diffusion of load into a panel bounded by constant stress booms and a transverse beam.	E.H. Mansfield	Aug. 1948	U	Aero Research Council. R&M No.2729.
32	Flexible supports for the ground resonance testing of aircraft.	W.G. Molyneux	Sept. 1948	U	Aircraft Eng. January 1958.
33	A review of operational research with V-g recorders.	D.T. Jones	Oct. 1948	U	

No.	Title of Report	Author(s)	Date	Security	External Publication
34 Aero 2300	Report of the R.A.E. advanced fighter project group.	Staff of R.A.E.	Nov. 1948	R	
35 Chem. 453	Design of "Perspex" components for aircraft. A symposium held at R.A.E. November, 1948.	Staff of R.A.E.	Jan. 1949	R	
36	An outline of the principles of aircraft strength testing.	P.B. Walker	Dec. 1948	U	Abbreviated versions published in Journal of the Institute of Structural Eng. Nov. 1948.
37	Flutter problems of high speed aircraft	E.G. Broadbent	April 1949	U	Aero Research Council. R&M No.2828.
38	The analysis of V-g records.	R.D. Starkey	May 1949	U	
39	Effects of rate and duration of loading on the strength of aircraft structures.	K.D. Raithby	May 1949	U	Aero Research Council. R&M No.2736.
40	A study of the critical speeds and aero-elastic behaviour under sudden loads of the general and "aero-isoclinic" swept wing.	J.C. Houbolt	June 1949	R.D.	
41	An investigation of the anti-symmetrical body freedom from flutter for swept wing aircraft.	J.C. Houbolt	June 1949	R.D.	
42	The initial buckling of a long and slightly bowed panel under combined shear and normal pressure.	E.H. Brown H.G. Hopkins	June 1949	U	Aero Research Council. R&M No.2766.

No.	Title of Report	Author(s)	Date	Security	External Publication
43	Torsional vibration investigations on the Musketeer engine.	M.O.W. Wolfe W. Davidson E. Downham	June 1949	U	Aero Research Council. Current Paper No.34.
44	Records of major strength tests.	P.B. Walker	July 1949	U	Aero Research Council. R&M No.2790.
45	A comparison of the endurance of various aircraft structures under fluctuating loading.	W.A.P. Fisher	July 1949	C	
46 Aero 2331	Some problems of the aero-isoclinic wing.	Staffs of Aero and Structures Departments.	July 1949	U/C	
47	Notes on the dynamic response of an aircraft to gusts and on the variation of gust velocity along the flight path with special reference to measurements made in Lancaster P.D.119.	A. Burns	Sept. 1949	U	Aero Research Council. R&M No.2759.
48	Stresses in built-up beams due to an abrupt change in shear stress at a loading section.	J. Taylor	Aug. 1949	U	Aero Research Council. R&M No.2775.
49	A simple method of allowing for shear deflections in calculating the vibration modes and frequencies of structures.	D. Williams	Aug. 1949	R	
50	Data on flight loads obtained with Miller recording equipment with particular reference to test flights in Lancaster P.D.119.	A. Burns	Sept. 1949	U	Aero Research Council. Current Paper No.48.
51	The electronic simulator for the solution of flutter and vibration problems.	F. Smith	Sept. 1949	U	Aero Research Council. Current Paper No.26.

No.	Title of Report	Author(s)	Date	Security	External Publication
52	Elasticity of a sheet reinforced by stringers and skew ribs, with applications to swept wings.	E.H. Mansfield	Dec. 1949	U	Aero Research Council. R&M No.2758.
53	Proposals for a new structures laboratory.	P.B. Walker	Nov. 1949	C	
54	Strength tests on Alclad faced sandwich panels with non-metallic cores.	J.K. Oaks R.H. Cross	Nov. 1949	R	
55	Recent developments in method of strength testing pressurised fuselages.	A.W. Hotson	Dec. 1949	U	
56	Undercarriage strength for yawed and banked landings.	M.E. Burt	Dec. 1949	R	
57	Criteria for the prevention of flutter of tab systems.	H. Wittmeyer H. Templeton	Jan. 1950	U	Aero Research Council. R&M No.2825.
58	The flutter of swept and unswept wings with fixed root conditions. Part I Wing tunnel experiments. Part II Comparison of experiment and theory. Part III Wing torsional stiffness criterion.	W.G. Molyneux	Jan. 1950	U	Aero Research Council. R&M No. 2796.
59	Fatigue tests on Meteor tailplane.	J.K. Oaks	Jan. 1950	R	
60	Some notes on the Hill aero-isoclinic principle for swept back wings, from the point of view of torsional stiffness and aero elastic behaviour.	D. Williams	Jan. 1950	U	
61	General consideration of the flutter of swept wings.	P.F. Jordan	Feb. 1950	R	
62	A new test frame for large aircraft.	P.B. Walker	Feb. 1950	R	
63	Design and material development in the U.S.A. in optical and electrical transparencies for aircraft.	W.H. Hall F.G.J. Brown	Oct. 1950	C.D.	

No.	Title of Report	Author(s)	Date	Security	External Publication
64	An experimental investigation of the effect of engine loads on wing structures.	J.L. Reddaway	April 1950	U	
65	Characteristics required for accelerometers for measuring low frequency accelerations in flight.	J. Taylor	May 1950	U	
66	Destructive energy in aircraft pressure cabins.	P.B. Walker	May 1950	U	Journal Royal Aeronautical Soc. April. 1950.
67	Flutter experiments with freely falling models at high subsonic speeds.	W.G. Molyneux E.W. Chapple	May 1950	R	
68	Symmetric flutter characteristics of a hypothetical delta wing.	D.L. Woodcock	May 1950	U	Aero Research Council. R&M No.2839.
69	Control surface flutter with the stick free.	H. Templeton	May 1950	U	Aero Research Journal. R&M No.2824.
70	The experimental approach to the problems of shaft whirling.	E. Downham	June 1950	U	Aero Research Council. R&M No.2768.
71	A new test frame for fuselages with and without pressure cabins.	P.B. Walker	May 1950	R	
72	Technique for flutter investigations using ground launched rockets.	W.G. Molyneux F. Ruddlesden	June 1950	U	Aero Research Council. R&M No.2944.
73	Wind tunnel technique for flutter investigations on swept wings with body freedoms.	P.F. Jordan F. Smith	Sept. 1950	U	Aero Research Council. R&M No.2893.
74	The design of a simple electronic flutter simulator.	F. Smith W.D.T. Hicks	July 1950	U	Journal Royal Aeronautical Soc. June 1953.

No.	Title of Report	Author(s)	Date	Security	External Publication
75	Natural frequencies and modes of a model delta aircraft.	D.R. Gaukroger	June 1950	U	Aero Research Council. R&M No.2762.
76	Dynamic fin and rudder loads in yawing manoeuvres.	T. Czaykowski	June 1950	U	
77	The stressing of wing ribs	P.B. Hovell J.L. Reddaway	Aug. 1950	U	
78	Design and use of counting accelerometers.	J. Taylor	June 1950	U	Aero Research Council. R&M No.2812.
79	Fatigue of aircraft structures.	P.B. Walker	June 1950	R	Journal Royal Aeronautical Soc. August 1949.
80	Prediction of undercarriage weights.	M.E. Burt E.L. Ripley	June 1950	R	
81	Review of gust data from civil aircraft records.	R.D. Starkey	Aug. 1950	U	
82	Some preliminary model experiments on the whirling of shafts.	E. Downham	June 1950	U	Aero Research Council. R&M No.2768.
83	Some interesting aspects of structural research.	P.B. Walker	June 1950	C	
84	Pre-tensioning as a means of preventing fatigue in bolts.	W.A.P. Fisher R.H. Cross G.M. Norris	July 1950	U	Aircraft Eng. June 1952 p.160.
85	The rolling power of an elastic swept wing.	E.G. Broadbent	July 1950	U	Aero Research Council. R&M No.2857.
86	Tables of functions for evaluation of wing and control surface flutter derivatives for incompressible flow.	I.T. Minhinnick	July 1950	R	

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87	Subsonic aerodynamic flutter derivatives for wings and control surfaces (compressible and incompressible flow).	I.T. Minhinnick	July 1950	U	
Corrigenda and addenda (Feb. 52)					
88	Fatigue of specimens from "Z" Section, D.T.D. 364 extrusions.	S/L C.N.S. Pringle	Aug. 1950	U	
89	Wing tunnel flutter tests on a model delta wing under fixed and free root conditions.	D.R. Gaukröger E.W. Chapple A. Hilln	Sept. 1950	U	Aero Research Council. R&M No. 2826.
90	Neutral holes in plane sheet:- reinforced holes which are elastically equivalent to the uncut sheet.	E.H. Mansfield	Sept. 1950	U	Aero Research Council. R&M No. 2815.
91	V-g records from operational fighter aircraft.	R.D. Starkey	Nov. 1950	C-D	
92	Fighter strength factors.	E.A. Poulton	Oct. 1950	U/C	
93	A method of fuselage structure weight prediction.	E.L. Ripley	Nov. 1950	R	
94	A simple method for tail unit structure weight prediction.	E.L. Ripley	Nov. 1950	R	
95	The strength of some welded joints in steel sheet material to specification D.T.D. 124A.	F. Clifton J. Ellis	Dec. 1950	U	
96	A new condition for fixing design strengths for aircraft materials and structural elements.	F. Clifton	Dec. 1950	U	
97	The critical whirling speeds and natural vibrations of a shaft carrying a symmetrical rotor.	E. Downham	Dec. 1950	U	Aero Research Council. R&M No. 2854.

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98	The stress distribution in a swept-back box-beam with perpendicular ribs.	P.B. Hovell	Dec. 1950	U	Aero Research Council. R&M No.2837.
99	Factual data on aircraft structure weights.	D.C. Appleyard D.R. Lewis	Jan. 1951	R	
100	Catalogue of Structures Department Reports with alphabetical list of authors.	W.E. Wood	Feb. 1951	R	
101	A simplified treatment of a fixed root swept wing built on Hill's isoclinic principle.	D. Williams	Jan. 1951	U	Aero Research Council. R&M No.2870.
102	Fatigue nomenclature for aircraft structural workers.	P.B. Walker R.B. Heywood	Feb. 1951	R	
103	The theory of torsional vibrations of a four-boom thin walled cylinder of rectangular cross section.	E.H. Mansfield	March 1951	U	Aero Research Council. R&M No.2867.
104	Effects of some design characteristics on aero-plane landing accidents.	M.E. Burt	June 1951	C	
105	Analysis of strength tests on aluminium-silicon castings to Specification B.S.S.2.L.33.	F. Clifton A.J. Beard	April 1951	C	
106	The geared elevator tab and tail unit stiffness requirements.	Ll.T. Niblett	April 1951	U	Aero Research Council. R&M No.2848.
107	Relationship between bearing strength and hardness for metallic structural elements.	E.L. Ripley A.J. Beard	April 1951	U	
108	Fatigue tests on typical two spar light alloy structure (Meteor 4 tail planes) under reversed loading.	K.D. Raithby	May 1951	U	Aero Research Council. Current Paper No.88.
109	A method of wing weight prediction.	E.L. Ripley	May 1951	R	

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110	Some aircraft structural fatigue failures and their significance to designers.	W.A.P. Fisher	May 1951	R	Aero Research Council. Current Paper No.87
111	Structural aspects of suction wings.	E.H. Mansfield	June 1951	U	
112	Shear tests on material to Specifications B.S.S. S.1, D.T.D.126A, D.T.D.423B and B.S.970 (EN.24, EN.25, EN.26).	E.L. Ripley	July 1951	U	
113	The variation of tensile strength in large aluminium alloy extruded bar.	F.H. Jones	Nov. 1951	U	
114	Stress concentrations at a cut-out in a swept wing.	E.R. Mansfield	July 1951	U	Aero Research Council. R&M No.2823.
115	The Eigensolutions of the finite segments of the Hilbert Matrix.	P.F. Jordan	Aug. 1951	U	
116	Weight prediction of ailerons and landing flaps.	M.E. Burt	Sept. 1951	R	
117	A review of vertical velocity in deck landings obtained from film analysis.	H.G. Spurr	June 1952	C	
118	Flutter tests on unswept wings using ground launched rockets.	W.G. Molyneux R. Ruddlesden P.J. Cutt	Nov. 1951	U	Aero Research Council. R&M No.2944.
119	Aspects of deck landing which affect undercarriage design.	M.E. Burt H.G. Spurr	Jan. 1952	C	
120	Determination of the stress distribution in reinforced monocoque structures. Part I - A theory of flat sided structures.	L.S.D. Morley	Dec. 1951	U	Aero Research Council. R&M No.2879.

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121	The effect of tight clamping on the fatigue strength of joints.	W.A.P. Fisher W.J. Winkworth	Feb. 1952	U	Aero Research Council. R&M No.2873.
122	Prediction of fuselage and hull structure weights.	M.E. Burt J. Phillips	March 1952	R	
123	Wind tunnel tests on symmetrical flutter of swept-back wings including the tailplane effect.	D.R. Gaukroger	April 1952	U	Aero Research Council. R&M No.2911.
124	Design loads for rudder geared tabs and trim tabs.	J.L. Reddaway	April 1952	R	
125	The theory and prevention of aeroplane nose-wheel shimmy.	D. Williams	Aug. 1952	U	
126	Vibration and flutter of aircraft aeriels.	W.H. Johnson	July 1952	U	Aero Research Council. Current Paper No.146.
127	Improvements in the fatigue strength of joints by the use of interference fits.	W.A.P. Fisher W.J. Winkworth	April 1952	U	Aero Research Council. R&M No.2874.
128	The vibrations of a swept wing.	N.S. Heaps	April 1952	U	Aero Research Council. Current Paper No.141.
129	The fatigue situation for civil aircraft.	P.B. Walker	May 1952	U	The Aeroplane 25.4.1952.
130	Effects of design speed and normal acceleration on aircraft structure weight.	M.E. Burt	June 1952	U	Aero Research Council. Current Paper No.490.

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131 Aero 2462	An investigation into an aircraft to fly at a Mach number of 2.0.	C.H.E. Warren J. Poole D.C. Appleyard	June 1952	R	Aero Research Council. Current Paper No.170.
132	Aerodynamic derivatives for a delta wing oscillating in elastic modes.	D.L. Woodcock	July 1952	U	
133	Empirical data on fatigue of aircraft structural joints.	W.A.P. Fisher	Aug. 1952	R	
134	Dynamic landing loads on inner engines of Shackleton.	A. Burns	Sept. 1952	R	
135	The aerodynamic effects of aspect ratio on flutter of unswept wings.	W.G. Molyneux E.W. Chapple	Nov. 1952	U	Aero Research Council. RAM No.294.2.
136	On the post buckling behaviour of stiffened plane sheet under shear.	E.H. Mansfield	Nov. 1952	U	Aero Research Council. RAM No.307.3.
137	Some identities on structural flexibility after buckling.	E.H. Mansfield	Nov. 1952	U	Aero Quarterly Vol.IX p.300 August 1958.
138	Determination of the stress distribution in reinforced monocoque structures. Part III - A theory of swept wings where the ribs are in the line of flight.	L.S.D. Morley	Nov. 1952	U	Aero Research Council. RAM No.296.7.
139	The effect of rolling on fin-and-rudder loads in yawing manoeuvres.	D.R. Puttock	Jan. 1953	U	Aero Research Council. Current Paper No.153.
140	The buckling shear stress of simply-supported infinitely-long plate with transverse stiffeners.	P.W. Kleeman	Jan. 1953	U	Aero Research Council. RAM No.297.1.

No.	Title of Report	Author(s)	Date	Security	External Publication
141	Aerodynamic flutter coefficients for sub-sonic, sonic and supersonic flow (Linear two dimensional theory).	P.F. Jordan	April 1953	U	
142	The technique of flutter calculations.	H. Templeton	April 1953	U	Aero Research Council. Current Paper No.172.
143	Wind tunnel tests on antisymmetric flutter of swept back wings with rolling body freedom.	D.R. Gaukroger	March 1953	U	Aero Research Council. R&M No.2911.
144	A water-borne runway.	D. Williams	April 1953	U	
145	Effects of low temperature on the fatigue strength of a two spar light alloy structure (Meteor 4 tailplane).	K.D. Raithby	April 1953	R	
146	Design criterion for fatigue of wings.	P.B. Walker	May 1953	U	Journal Royal Aeronautical Soc. January 1953.
147	A symposium on the flutter problem in aircraft design.	H. Templeton G.R. Brooke	May 1953	C	
148	The harmonically oscillating wing with finite vortex trail.	P.F. Jordan	July 1953	U	
149	Estimation of the fatigue life of a transport aircraft.	P.B. Walker	July 1953	U	Journal Royal Aeronautical Soc. October 1953.
150	Fatigue testing of a large wing by the resonance method.	K.D. Raithby	Aug. 1953	R	
151	Use of a geared flap to prevent wing flutter.	H. Templeton	Sept. 1953	C	

No.	Title of Report	Author(s)	Date	Security	External Publication
152	The R.A.E. electronic simulator for flutter investigations in six degrees of freedom or less.	F. Smith W.D.F. Hicks	Sept. 1953	U	Aero Research Council. R&M No. 3101.
153	A large deflection theory for thin plates.	E.H. Mansfield P.W. Kleeman	Oct. 1953	U	Aircraft Eng. Vol. XXVII p.102-108. April 1955.
154	Stress analysis of triangular cantilever plates.	E.H. Mansfield P.W. Kleeman	Oct. 1953	U	Aircraft Eng. Vol. XXVII p.287-291. Sept. 1955.
155	Flutter tests on swept back wings using ground launched rockets.	W.G. Molyneux F. Ruddlesden	Oct. 1953	U	Aero Research Council. R&M No. 2949.
156	Aircraft structural research - a critical survey.	D. Williams	Oct. 1953	U	
157	Wind tunnel flutter tests on a delta wing with an all moving tip control surface.	D.R. Gaukroger	Oct. 1953	U	Aero Research Council. R&M No. 2978.
158 Met. 77 Chem. 497	Examination of parts of wreckage of Viking aircraft VP-YESY.	P.B. Walker L.G. Carpenter N.J.L. Megson	Nov. 1953	R	
159	Wind tunnel tests on the effect of a localised mass on the flutter of a swept back wing with fixed root.	D.R. Gaukroger	Dec. 1953	U	Aero Research Council. R&M No. 3141.
160	The strength properties of some light alloy casting material.	F. Clifton	Jan. 1954	R	
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