APPENDIX 8A

INSTRUCTIONS FOR SUPPLEMENTARY INDEXERS

GENERAL INFORMATION

1. The documents to be indexed

The enclosed list of documents consists of 20 sheets (front and back pages), each of which has a minimum of 20 references, and it is from these lists that we ask you to make your selection of documents to be indexed. If the intention is to index a total of 20 documents, select one reference from each sheet. If 40 documents are being indexed, select 2 references from each sheet and so on for any further multiples of 20 documents.

Where indexing is to be done by more than one system, it is presumed that the same collection of documents will be used.

2. The indexing

Notes on indexing procedure are given separately for each system, but the following points are of general applications:-

(a) The depth of indexing which is normally done in an organisation is dependent on a number of factors, possibly the most important being the requirements of the users of the index and the type of documents being indexed. In this respect, the project indexers have been limited by time since they have had to complete a batch of 100 documents in a definite time which has varied from 26 hours to $3\frac{1}{2}$ hours. We do not wish to place any such restriction on those who are doing the supplementary indexing, and we feel that your contribution would be most valuable if the level of your indexing was that which you would normally do for your own organisation.

(b) The specificity of the indexing is a more difficult matter. In the notes on the various systems some examples are given of the degree of detail we believe necessary. In general we would suggest that you should attempt to be as specific as possible, bearing in mind that although the collection of documents is relatively small we are endeavouring to test the various systems in their ability to answer specific questions as well as more general questions. The project indexers would normally specify by name or type number such things as aircraft, engines, wing sections, proprietary materials, etc. Also we would, where appropriate give a numerical value to the sweep of a wing and to aerodynamic parameters such as aspect ratio, taper ratio, and thickness ratio.

3. Recording of indexing

A supply of indexing cards is enclosed, a separate set for each system that is being done. Already an identification number denoting your organisation has been put on each card and you are requested to enter the code reference (as shown in the first column on the document list, not the source reference) of the document being indexed. After recording your indexing decisions on the card we should like you to enter, in the spaces marked, an approximation of the time that has been spent on indexing the document, and also the name of the indexer, as

shown below:-

ASLIB CRANFIELD PROJECT INDEXING CARD FOR				
ORGANISATION 99	DOCUMENT REFERENCE 80-08	TIME TAKEN 15 mins.	INDEXER A.B. SMITH	

THE UNIVERSAL DECIMAL CLASSIFICATION

The schedules which you are requested to use are as follows :-

B.S.1000A (1947)		Abridged English edition
(0)	: 1943	Generalities
(5/53)	: 1943	Mathematics and Physics
(54)	: 1943	Chemistry
(55/59)	: 1943	Geology
(621.3)	: 1947	Electrical Engineering
(622/623)	: 1955	Mining and Military Engineering
(669)	: 1949	Metallurgy
(678/679)	: 1954	Rubbers, etc.

Aslib Aeronautical Group Draft Revision 532.5 and 533.6 (copy enclosed)

We have also been using some draft revisions for other parts of 621, but these are not now obtainable. However, if you should have copies, the British Standard reference numbers are CM(OC)4942 and CR(OC)7325. Otherwise it is suggested that you use the number as shown in the alphabetical index or alternatively the number as given in B.S.1000A.

The enclosed list of terms is a copy of the alphabetical index to the classified catalogue which has been compiled during the indexing of the first 12,000 documents. We now find that one may expect that at least 95 per cent of the headings required for indexing new documents will be in this list, but we do not, of course, wish you to restrict yourself to the U.D.C. numbers which are contained in the alphabetical index. However, we would ask that you should not use different numbers for subjects that are given in the alphabetical index.

In general, each entry consists of the word or words representing the most specific elements of the class number indexed, followed by the super-ordinate

classes in ascending order, to that level which it is considered will eliminate ambiguity by differentiating between homonyms and between entries for the same subject in different contexts. No attempt has been made at chain indexing.

Exceptions to this general rule are made where obvious inconsistencies appear. These arise because the U.D.C. schedules do not have a consistent method of breakdown, and the nature of the breakdown will be reflected in the form of index entries if the rule is rigidly followed. For instance, the entry for "Turbine blades" reads:

Turbine blades. Gas turbines. Internal combustion engines,

whilst the entry for "Propeller blades", if given in the form dictated by the schedules would read:

Blades. Propellers. Aircraft engineering.

For consistency, therefore, the latter is changed so that the entries under "Blades" are in the same form:

Blades, turbine. Gas turbines. Internal combustion engines.
Blades, propeller. Aircraft engineering.

Although modifications of this kind have been made, we have not tried to find a formula which would provide entries of a standard form independently of the schedules. This would be tantamount to constructing a subject headings list and no example of such a list of even moderate complexity, which displays a standard structure, is known. The index is therefore a compromise, but the tendency has been to endeavour to preserve the form of entry which reflects the hierarchy displayed in the schedules, at the expense of some inconsistency.

There are occasions when the specific term which the schedules dictate should be the entry term, might be considered as unsought, as for example such terms as "Design", "Research", "Production", "Measurements", etc. In such cases entry is usually made both under the prescribed form and under the second term, the first in this case being transposed and underlined, e.g.

Measurement. Impedance. Vibrations. Physics.
Impedance. Vibrations. Physics. <u>Measurement</u>.

The index is not exhaustive in the sense that all complex numbers used to date have been indexed, and no indexing of compound numbers produced by the use of the colon has been attempted, except in a few special cases such as "Cermets" which take the number 666.3:669. All main numbers used are included, however, and it is hoped that a sufficiently representative selection of numbers synthesised by the use of common subdivisions, special analyticals, etc., has been included for consistency in indexing to be maintained. The following notes on procedure may also help in this respect.

1. Class numbers may be supplemented by the use of proper names, etc., in order to specify particular types of aircraft, particular wind tunnels, engines, etc. Such names are to follow the class numbers in brackets, and in the case of aircraft, the country number is to be interpolated. The

following is a list of numbers commonly treated in this way:

629.13(42) (De Havilland-Comet) (For all aircraft except helicopters)
629.135.45(42) (Westland-Whirlwind)
533.6.071 (N.P.L. -)
621.432 (Bristol-Pegasus)
621.438 (Bristol-Orpheus)
629.136.3 (Atlas)
669.14 (A.I.S.I. -)

Other numbers may be so treated, but the basic number for the subject should be used and not that number representing a "kind" of the thing concerned, e.g. a pure jet engine should be specified by the use of 621.438(---) and not by the use of 621.438.084(---). If desired, separate entry may be made under the more specific number. This procedure provides a simple list at a single number, and eliminates the risk of overlooking some of several entries scattered by the use of specific numbers.

2. The various kinds of stresses should be placed at 531.22 and its subdivisions, e.g. Bending stresses 531.224. The deformations resulting from these stresses should be placed at 539.38 and its subdivisions, e.g. Bending 539.384. The ability to resist these stresses, i.e. strength, should be placed at 539.4 and its subdivisions, e.g. Bending strength 539.413.

3. Common subdivisions, special analyticals, points of view numbers, country numbers, etc., may be used freely with the numbers to which the schedules show they are appropriate, with the one exception of the 621-4 numbers. The reason for this exception is that entry is frequently required under 621-4 as such because shape is paramount. Where necessary, the shape number should be coloned to the other number concerned, e.g. 669.715: 621-415 for aluminium alloy sheet.

4. 533.692 is to be used for all two-dimensional aerofoils, including wings, and for three-dimensional aerofoils and wings when the shape of the aerofoil is paramount. For three-dimensional aerofoils and wings in general, particularly when planform is paramount, 533.693 or its appropriate subdivision should be used.

5. Variable quantities such as angle of sweepback, aspect ratio, etc., may be specified by including the value in square brackets after the appropriate class number e.g.

533.69.031 [4]
533.693.1 [35]

6. 620.17, 533.6.071 etc., may be used for both descriptions of testing equipment and methods of testing. Also when attached by a colon to the things tested they will show the nature of the test carried out. This is preferred to the use of .001.5 because of the lack of detail the latter provides.

7. We find that the combination by colons of three numbers, (e.g. 533.693: 533.6.013.13:533.69.048.5) is normally sufficient to bring the number of entries to manageable proportions for searching.

ALPHABETICAL SUBJECT CATALOGUE

The enclosed list of headings for the alphabetical subject catalogue have been generated during the indexing of the first 10,000 documents. The first section of the list consists of main headings and the last five pages are of the sub-headings that can be used. A single asterisk against a main heading indicates that it can also be used as a sub-heading. A double asterisk indicates that we have used a further term to denote speed (i.e. transonic, supersonic or hypersonic) e.g. Wings, low-drag, supersonic.

We find that the headings given in the list now meet the very large majority of our requirements but no doubt you will have to use some new headings. We were unable to find any rules dealing with a method for forming headings that were applicable and published lists of headings were in general not suitable for our purpose. We therefore endeavoured to compile some simple rules for the formation of headings and they are given at the conclusion of these notes. We should be very interested in having critical comments on these rules and should be particularly pleased to have any such rules which you might use.

It will be noticed that we have not included any "see also" references in our list of headings. We intend to compile these at a later date and hope to be able to make some comparison of the effectiveness of various methods.

RULES FOR THE CONSTRUCTION OF ALPHABETICAL SUBJECT HEADINGS

1. Headings

Headings are composed of Main Headings with Sub-headings if required.

2. Main Headings

The Main Heading is composed of a noun (or a phrase), or a noun qualified by one or two adjectives. Normally an inverted form is used, so that the adjective follows the noun. A comma is interposed between the noun and the adjective, e.g. DIFFUSERS, WIND TUNNEL. Where TRANSONIC, SUPERSONIC or HYPERSONIC is used to qualify a heading in addition to another adjective, this speed qualification is to be regarded as subordinate and is to be placed last, e.g. DIFFUSERS, WIND TUNNEL, SUPERSONIC. Where common usage demands, the uninverted form is used, e.g. GAS TURBINES. In cases of ambiguity, where the same word can be used with different meanings, a defining term may be added in square brackets, e.g. BLOWING [BOUNDARY LAYER CONTROL]. Names of specific items may be added in curved brackets, e.g. AEROPLANES (DE HAVILLAND-COMET), AEROFOIL SECTIONS (NACA 64010), ASPECT RATIO (9.43).

3. Sub-Headings

Sub-headings are used to qualify the main headings and are preceded by a

hyphen. In general, sub-headings fall into three groups:-

(a) Processes such as PRODUCTION or ANODISING.

(b) Things which can be measured, calculated or otherwise determined. For example, LIFT can be measured, STRESS DISTRIBUTION can be calculated, COLLAPSE can be determined.

(c) Form such as CHARTS.

In some cases, sub-sub-headings may be used further to qualify main headings and sub-headings, e.g. WINGS - Lift. Measurement.

FACET CLASSIFICATION

The notes concerning the Facet system are substantially those prepared by Mr. B. C. Vickery and Mr. J. Farradane who compiled the Facet schedules for the project. There are only a couple of minor points which it is necessary to add:

(1) There are certain places in the schedules where different terms have been given the same notation, e.g. Nns Surface tension, capillarity. In the chain index it is vital that there should be as much consistency as possible to terminology and often in such cases it will be noted that one term has been underlined, e.g. Surface tension. This is to show that the underlined term is to be used for chain indexing. In the alphabetical index (that follows after the schedules), there will be found cross references from such terms to the actual term to be used.

(2) In some cases the same word has two meanings, e.g. "Spinning" which may be a flying operation or method of mechanical working. Where this occurs, it is shown in the schedules, and the chain index should be made in the prescribed form "Spinning (Flying operation)".

Introduction

The Facet schedules attempt to provide a special classification for aeronautics and allied subjects. The field of aeronautics itself may be taken to include such subjects as the uses of aircraft, their types and components, their performance and operation, their instruments and ground services, and so on, and also to include their aerodynamic and aeroelastic characteristics. In order to allow of indexing other material of interest in aeronautics, the schedules also cover materials, their manufacture and properties, aviation hygiene, meteorology, general technical operations, electrical and electronic equipment, managerial operations, mathematics, etc. Some of these subjects are only sketched in. Others may prove to be in greater detail than is needed.

The classification has been constructed by dividing all the concepts arising in the field into categories - groups of items of like nature, e.g. aircraft types, aircraft parts, engines, flying operations, aerodynamic entities, forces, materials, processes, etc. The categories so obtained have been arranged in a preferred order whereby the relations between terms, or order of subordination of one concept to another, are expressed by the order of these categories. Thus terms which qualify

other terms come in a later group than do those which are so qualified. The groups of terms so arranged are listed in the Synopsis at the end of these notes. In the schedules themselves, each new category introduced is underlined or CAPITALISED.

To the schedules is applied a simple alphabetical notation. Twenty-six blocks of terms are each identified by a capital letter, and the terms within each such facet are given small letters.

It will be seen from the Synopsis that the conceptual categories and notational facets are not in one-to-one correspondence, for two reasons: (1) there are more than 26 categories, (2) some categories - e.g. Physical properties - are very large. To overcome these problems, the capitals have been allocated more or less evenly over the whole schedule.

Forming compound subjects

To classify a specific subject, symbols representing its component terms are combined together, in the order in which they appear in the schedules.

Wedges:	flow:	vortex sheets:	calculation
Fnf	Nkf	Ngp	Yz

Al alloy:	strength:	high temperature
Peal-a	Rp	Sud

Sandwich structure:	metal:	high temperature
Fkd	Pe	Sud

For many specific subjects, the simple combination of symbols (such as Fnf Nbf Ngp Yz) is all that is required. However, a few other notational devices are also provided.

Use of curved brackets

It is not always possible to represent specific subjects satisfactorily by combining terms in the order in which they appear in the schedule. The most usual instance of this is when a "thing" - an aircraft, a component, a material, etc. - is adjectivally qualified. Provision is therefore made at certain points in the schedule, i.e. Igb-Iyw, Prb-Px and Za-Zvm for terms which can be used out of schedule order so that they can be placed adjacent to the terms which they qualify when compounding a class symbol for a document, e.g.

Plates:	laminated:	aerodynamic heating:	temperature:	distribution:	tests
Ffe	(Px)	Oi	Ssb	(Zf)	Vi

Boundary layer:	three-dimensional:	stability
Nfk	(Igb)	Ob

Use of square brackets

In some cases it is not possible to provide a notation for all possible sub-variants

of a given term, e.g. for aircraft types by name, and such names can then be inserted, after the term they qualify, in square brackets, e.g. Bc [LOCKHEED - CONSTELLATION] .

Use of numerals

A further method of specifying a term more closely is by numeralisation - adding a numeral which expresses an attribute quantitatively. The schedules specifically direct that this be done at the following places.

Bg	Aircraft, planes
Bi	Aircraft, engines
Brf	Aircraft, rotors
Dh	Propeller, blades
Gc	Engine, strokes
Gy	Compressor , stages
In	Polygon, sides
Nf	Flow, dimensions
Wk	Valve, electrodes
Wnc	Transistor, electrodes

Other instances may occur, e.g.

Surface:	rough:	Mach 3.12:	transition
Fw	(It)	Nbk 3.12	Nfn

Aerofoil:	flow:	thickness ratio 10%:	camber
Cc	Nbf	Oqw 10	Oss

Steel:	carbon, molybdenum:	strength:	temperature 850°F
Pf	cmo	Rp	Ssb 850°F

The "and" problem

One last problem of forming compound subjects is the "and" problem, in which two or more terms from the same category are co-ordinate with each other. Two methods of treatment are possible: (1) treat each term separately forming two or more independent subjects and therefore two or more separate entries. (2) Include the two or more terms in a single entry, in normal schedule order.

The first method is to be preferred, exception being made only when the two terms are felt to be interdependent as far as the particular document is concerned.

Form divisions

Only two form divisions have been allotted, Bibliography, symbolised by :b, and Charts by :c.

Comment on notation

The notation has been chosen with an eye to maximum brevity:

(1) for terms within each facet, a base of letters has been used rather than only 9 numerals; (2) in allocating symbols within a facet, no consistent attempt has been made to express hierarchical relations where this would lengthen the notation (e.g. Aw is subordinate to Av, but this is not shown in the notation, although the subordination of Avb to Av is shown).

The result of relying mainly on letters is to produce class numbers such as C Ntq Rkm Rp Rvc Vi, Bc(Zs)Om Vbd Vm, or Cd(Ihc)Nq Nr Ogt Ycd. Apart from their complexity (which is simply a reflection of the complexity of the subjects indexed), it may be that such blocks of letters are not the most acceptable and easily remembered symbols that could be devised. There is need for further study of this important psychological aspect of notation. Meanwhile, the proposed ordinal and letter notation will provide a contrast to the hierarchical and numerial notation of U.D.C., and some guidance as to their relative acceptability may result from the project.

Chain indexing

Since the object of faceted classification is to be able to express complex subjects by a single notation showing the terms involved in a preferred order (that which appears most logical and helpful to the user), it follows that provision must be made for finding the position of terms distributed in the subordinated positions. This is achieved by chain indexing. In this complementary alphabetical index the concepts in a given coded subject are cited (as words) in the reverse order of the code, together with the full code. Further entries are then made for each facet in turn, omitting one facet word on the left each time, whilst quoting the code number with one less facet code term on the right each time. The final card will thus be the first facet term (of the complete coded notation) alone, with its facet notation, and this is equivalent to the card appearing in a straightforward alphabetical index to all the terms in the classification. An example follows:

Classified index entry Cd(Ij)(Iv)Ieb Nfp Nvf Ya

Chain structure		
	Cd	Wings
	Ij	Delta
	Iv	Slender
	Ieb	Leading edge
	Nfp	Separation (Boundary layer)
	Nvf	Pressure distribution
	Ya	Calculation

Alphabetical index entries

1. Calculation: Pressure distribution: Separation (Boundary layer): Leading edges: Slender: Delta: Wings Cd(Ij)(Iv)Ieb Nfp Nvf Ya

2. Pressure distribution: Separation (Boundary layer): Leading edges: Slender: Delta: Wings Cd(Ij)(Iv)Ieb Nfp Nvf

3. Separation (Boundary layer): Leading edges: Slender: Delta: Wings Cd(Ij)(Iv)Ieb Nfp

4. Leading edges: Slender: Delta: Wings Cd(Ij)(Iv)Ieb

5. Slender: Delta: Wings Cd(Ij)(Iv)

6. Delta: Wings Cd(Ij)

7. Wings Cd

Although these seven entries for a single document may appear to be a large number, it should be realised that the more general alphabetical entries will cover a number of classified entries. For example "Wings" will not be required for any of the other many thousands of entries in the classified catalogue which commence with this subject. As the catalogue grows in size, the average number of alphabetical entries per classified entry is reduced and in a very large collection the ratio tends towards unity.

UNITERM INDEX

In this introduction a reasonable familiarity with the basic principles of the uniterm system of co-ordinate indexing is assumed.

During the past few years, a number of modifications and refinements have been made to the system as originally proposed by Dr. Mortimer Taube. The general trend of these changes has been to group the uniterms into categories or concepts and they appear to lead finally to one of two forms of co-ordinate indexing, either the thesaurus approach or facet classification.

In this project we have discarded all such developments and have indexed by uniterms in their basic form. This is partly to keep the system as far as possible removed from the other co-ordinate system being investigated and also because we believe that it will, by doing it this way, be possible to ascertain what, if any, improvement is caused by various types of modifications.

The list of uniterms which is enclosed consists of terms originated during the indexing of the first 10,000 documents. Synonyms are not directly cross-referenced, but it will be noted that, for instance, the terms "Manufacture" and "Production" are both given the number "900". These numbers represent the code that is used for putting the entries on to punched cards, so it is immaterial whether "Manufacture" or "Production" is used, since they will be brought together in the sorting.

This list is likely, we now find, to meet 95% of the requirements for uniterms, but it is probable that some new terms will come up in your indexing, and we certainly do not wish you to restrict yourself to the terms in the list. Proper names or numbers may be used as required.

No particular restrictions have been put on the indexers regarding the selection of terms. In some cases it may be that all the terms used will have occurred on the title of the paper or in the abstract but in other cases the terms may be entirely different.

Comments concerning desirable depth of indexing are given in the general introduction but it may be stated that the reported experience of compilers of uniterm indexes is that the general average is 10 uniterms for each document.

Our own indexing experience bears this out, although often it has been found necessary to have 25 or 30 uniterms for a single document.

Recording of Indexing

Would you please enter on the indexing cards the uniterms that you select. It would assist us if you could place a cross against any uniterms which you use which are not already included in our list.

	U.D.C.	J.F.HADLOW		15.8.60	RESULT 1	

25-07 P12514

Comparison of alclad and unclad aluminium sheets riveted together and subjected to fatigue loading.

First search		Second search	
Programme	Documents	Programme	Documents
669.715 (A) AB+	12 No		
620.178.3+(B) BA	31 Documents (A):(B):621.884.057.2		

	ALPHA	B. WARBURTON		5.7.60	RESULT 6	

25-07 P12514

Comparison of alclad and unclad aluminium sheets riveted together and subjected to fatigue loading.

First search		Second search	
Programme	Documents	Programme	Documents
SHEETS, ALUM. ALLOY	12 NO	SHEETS, ALUM. ALLOY	7 NO
Fatigue.			

Third search		Fourth search	
Programme	Documents	Programme	Documents
ALUMINIUM ALLOY	3 NO	PANELS, RIVETED,	1 NO
CLAD		ALUM. ALLOY	

FIG. 1A Search card for Alphabetical and U.D.C. for question 25-07

	FACET	C.W.CLEVERDON		31.10.60	RESULT 2	

25-07 P12514

Comparison of alclad and unclad aluminium sheets riveted together and subjected to fatigue loading.

First search		Second search	
Programme	Documents	Programme	Documents
Real-a Al. Alloy	— +1	Hvd Real-2 Rkm	12514 +1
Rkm Fatigue			3 searches
Hvd Rivets			
Ffb Sheets			

	UNIT.	B. WARBURTON		5.8.60	RESULT 3X	

25-07 P12514

Comparison of alclad and unclad aluminium sheets riveted together and subjected to fatigue loading.

First search	Second search
Programme	Programme
ALUMINIUM ✓ STRENGTH ✓	
SHEETS X PLATES X	
RIVETED ✓	
ALCLAD X	
FATIGUE ✓	

FIG. 1B Search card for Facet and Uniterm for question 25-07

	U.D.C.	B. WARBURTON		12.10.60	RESULT 1	

28-07 P12838

Theoretical calculation of the performance of half-delta wing-tip controls on the tips of delta wings.

First search		Second search	
Programme	Documents	Programme	Documents
A 533.693.31	AB		
B 533.694.5	Doc. found		
	at AB.512		
	AB = (25)		

	ALPHA	J.F. HADLOW		5.9.60	RESULT X	

28.07 P.12838

Theoretical calculation of the performance of half-delta wing-tip controls om the tips of delta wings.

First search		Second search	
Programme	Documents	Programme	Documents
WING TIPS, MOVING +	14 No.	WINGS, DELTA — Control +	22 No.
		WINGS, DELTA, SUPERSONIC — Control +	4 No.
		WINGS, DELTA, TRANSONIC — Control +	2 No.

Third search		Fourth search	
Programme	Documents	Programme	Documents
WINGS, DELTA — Performance	1 No.		
WINGS, DELTA, SUPERSONIC — Performance.	—		
WINGS, DELTA, TRANSONIC — Performance.	—		

FIG. 2A Search card for Alphabetical and U.D.C. for question 28-07

	FACET	C.W.CLEVERDON		31.10.60	RESULT 1	

28-07 P12838

Theoretical calculation of the performance of half-delta wing-tip controls on the tips of delta wings.

First search		Second search	
Programme	Documents	Programme	Documents
Id Tips ✓	12838+4		
Cd(Ij) Wings, Delta			
Cp Control surfaces			

	UNIT.	B.WARBURTON		5.8.60	RESULT 2X	

28-07 P12838

Theoretical calculation of the performance of half-delta wing-tip controls on the tips of delta wings.

First search	Second search
Programme	Programme
WINGS ✓	
DELTA ✓	
TIP X	
CONTROL ✓	
PERFORMANCE X	

FIG. 2B Search card for Facet and Uniterm for question 28-07

ASLIB CRANFIELD PROJECT

INDEXING CARD FOR UNIVERSAL DECIMAL CLASSIFICATION

ORGANISATION	DOCUMENT REFERENCE	TIME TAKEN	INDEXER	
79	12414	15 mins	B.G.	

(A) 623.746.3.073	ABC	
(B) 533.6.013.423	BAC	
(C) 533.6.013.413	CAB	

ASLIB CRANFIELD PROJECT

INDEXING CARD FOR ALPHABETICAL SUBJECT CATALOGUE

ORGANISATION	DOCUMENT REFERENCE	TIME TAKEN	INDEXER	
80	12414	15 mins	C.A.L.	

DAMPING – Stability. Flight tests	
STABILITY, LATERAL –	Damping. Flight tests
AEROPLANES, FIGHTER –	Effectiveness. Flight tests
–	Stability. Flight tests
FLIGHT TESTS – Stability,	damping
– Damping	

ASLIB CRANFIELD PROJECT

INDEXING CARD FOR FACET CLASSIFICATION

ORGANISATION	DOCUMENT REFERENCE	TIME TAKEN	INDEXER	
32	12414	10 mins	B.P.	

Bhg (Am) Gvy (zud) Oap Och Sfu

Damping: Lateral Stability: Directional Control:

Fixed: Guns: Fighter: Turbojet aeroplanes

ASLIB CRANFIELD PROJECT

INDEXING CARD FOR UNITERM

ORGANISATION	DOCUMENT REFERENCE	TIME TAKEN	INDEXER	
31	12414	16 mins	MT	

FLIGHT	INVESTIGATION	STABILITY
LATERAL	DAMPING	NACA
FIGHTER	AIRCRAFT	
GUN	EFFECTS	
PLATFORM	EFFECTIVENESS	

FIG. 3. SUPPLEMENTARY INDEXING MASTER CARDS FOR DOCUMENT P12414

W.R.U. TEST. CRANFIELD INDEX MASTER CARD

Document No.	Indexer	Date	Total Time	Analysis	Notation	
1455	JA	8.10.61	20 mins	10 mins	10 mins	

Reference Metal Progress Vol. 79, April 1961 pp 88.
Non-destructive testing for management. 2. How to use magnetic particle methods.

ANALYSIS	NOTATION	INDEX ENTRIES	
MAGNETIC PARTICLE TESTING	1 Xu acd	1:2	5:1
	2 Nfe	1:3	6:1
FERROMAGNETIC MATERIALS — IRON, NICKEL, COBALT	3 Nni	1:4	7:1
	4 Nco	2:1	8:1
SURFACE DEFECTS,	5 Psj	3:1	9:1
	6 Pj	4:1	
CRACKS, INCLUSIONS, SEAMS	7 Cd	1:5	
	8 Cnk	1:6	
SUBSURFACE DEFECTS BLOWHOLES, POROSITY	9 Pec	1:7	
		1:8	
		1:9	

FIG. 4. MASTER INDEXING CARD FOR CRANFIELD FACET INDEX IN W.R.U. TEST