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AGARD

ADVISORY GROUP FOR AEROSPACE RESEARCH & DEVELOPMENT

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AGARD REPORT No. 684

The Production of The AGARD Multilingual Aeronautical Dictionary Using Computer Techniques

NORTH ATLANTIC TREATY ORGANIZATION

DISTRIBUTION AND AVAILABILITY
ON BACK COVER

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ADVISORY GROUP FOR AEROSPACE RESEARCH AND DEVELOPMENT

(ORGANISATION DU TRAITE DE L'ATLANTIQUE NORD)

AGARD Report No.684

THE PRODUCTION OF THE AGARD MULTILINGUAL AERONAUTICAL DICTIONARY USING COMPUTER TECHNIQUES

by

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This report was prepared at the request of the Technical Information Panel of AGARD.

THE MISSION OF AGARD

The mission of AGARD is to bring together the leading personalities of the NATO nations in the fields of science and technology relating to aerospace for the following purposes:

- Exchanging of scientific and technical information;
- Continuously stimulating advances in the aerospace sciences relevant to strengthening the common defence posture;
- Improving the co-operation among member nations in aerospace research and development;
- Providing scientific and technical advice and assistance to the North Atlantic Military Committee in the field of aerospace research and development;
- Rendering scientific and technical assistance, as requested, to other NATO bodies and to member nations in connection with research and development problems in the aerospace field;
- Providing assistance to member nations for the purpose of increasing their scientific and technical potential;
- Recommending effective ways for the member nations to use their research and development capabilities for the common benefit of the NATO community.

The highest authority within AGARD is the National Delegates Board consisting of officially appointed senior representatives from each member nation. The mission of AGARD is carried out through the Panels which are composed of experts appointed by the National Delegates, the Consultant and Exchange Programme and the Aerospace Applications Studies Programme. The results of AGARD work are reported to the member nations and the NATO Authorities through the AGARD series of publications of which this is one.

Participation in AGARD activities is by invitation only and is normally limited to citizens of the NATO nations.

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THE PRODUCTION OF THE AGARD MULTILINGUAL AERONAUTICAL DICTIONARY

1. INTRODUCTION

In 1973, the National Aeronautics and Space Administration was asked by the Advisory Group for Aerospace Research and Development, Technical Information Panel (AGARD/TIP) to assist in preparing an updated version of the Aeronautical Multilingual Dictionary, published by AGARD's Documentation Committee in 1960 and supplemented in 1963. In October 1973, under auspices of AGARD/TIP, the Working Group for the Multilingual Aeronautical Dictionary held its first meeting and began the deliberations that led seven years later to distribution of printed dictionary copies to AGARD National Delegates, to Panel Representatives, and to two points for public sale. In North America, sale is by the National Technical Information Service, Springfield, Virginia, USA, and in other parts of the world by AGARD/NATO, Neuilly sur Seine, France.

The principal goal of the work was stated in a preface to the dictionary by the Chairman of AGARD, Dr. Alan M. Lovelace:

> Since 1963, substantial technological advances have taken place, and many new terms have been introduced into the language of aeronautical research, development, and engineering. At the same time, many terms previously in current use are obsolescent. For these reasons, the original AGARD Multilingual Aeronautical Dictionary has been completely revised and updated. In his foreword to the first AGARD Multilingual Aeronautical Dictionary, the late Dr. Theodore von Karman, world-renowned scientist and founder of AGARD, said, "I believe that one of the fundamental conditions for the exchange of scientific information is the exact definition of scientific and technical concepts and a knowledge of the corresponding terminology in various languages." It is AGARD'S hope that this revised dictionary will help fulfil this objective and will prove a valuable tool for scientists, engineers, and translators in the field of aeronautics.

A second major goal was to produce the dictionary by computer techniques and automatic photocomposition insofar as possible. Computer assistance in the publication process of the dictionary was to be employed to minimize the cost and facilitate a recurring process of

maintaining currency with the leading edge of technology. Dictionaries have been developed with the use of computers before, however, one dealing with a multiplicity of languages has not been accomplished in a fully automated manner before.

In realizing these goals the Working Group relied on AGARD Panel members for the primary input in updating terms and definitions, while two Technical Information Panel Executives during the six-year period, A. J. R. Whitehead and Trevor Sharp, provided the coordination and funding activities necessary to support the various contractors involved. Further planning and coordination was provided by two chairmen of the Working Group, Colin Schuler at the outset, and Joseph Coyne later when it became known as the Sub-Committee on the Multilingual Aeronautical Dictionary. The efforts of the contractors will be described in detail later in this report, but considerable attention to the data processing and photocomposition aspects of the work was required by two successive directors of NASA's scientific and technical information program during this period, Harold E. Pryor and George P. Chandler, Jr.

The exposure described herein of both AGARD and NASA to the development of MAD and the experience gained in its actual production should provide a sound basis for the production of the next edition. This version is expected to contain more terms and will be published within a time cycle considerably shorter than the 1980 edition. Providing at the outset for support by a single organization having knowledge in three key areas--lexicography, language translations, and technical editing,--should produce a synergistic effect when combined with the computerized process now developed and described in the following pages.

2. OBJECTIVES AND CONTENT OF THE DICTIONARY

2.1 BACKGROUND

In March 1953 AGARD commissioned its Documentation Committee to initiate the development of a multilingual technical aeronautical dictionary. The Multilingual Aeronautical Dictionary was published in 1960, and a Supplement followed in 1963. In keeping with its mission for the advancement of aerospace science and technology and the exchange of information in these fields among NATO members, the Technical Information Panel of the Working Group on the Multilingual Aeronautical Dictionary (MAD) was formed to revise the dictionary to include new terms and to delete terms that had become obsolete.

In a cooperative spirit, a joint effort was instituted in 1974 between the Working Group on the Multilingual Aeronautical Dictionary and the U.S. National Aeronautics and Space Administration, Scientific and Technical Information Office. While AGARD was to remain

responsible for the substance and content, NASA was to supply state-of-the-art technology for the preparation of the preliminary versions and the final camera-ready copy. At the outset, it was agreed that the AGARD MAD was to be considered a recurring publication; computer technology would be used for data maintenance and update, and computer-assisted photocomposition for cost containment of subsequent editions of the dictionary.

2.2 PRODUCTION TECHNIQUE

Computer technology served three purposes in the composition of the MAD: (1) It allowed for the implementation of a coordinated management plan to facilitate the selection of terms and definitions and the control of translations. (2) Given sensitive, far-sighted programming, it allowed the dictionary's editorial staff to easily update, add, or delete text up to the last possible moment. (3) It allowed formatting and photocomposition to be acccomplished within the time constraints imposed. In addition, a major advantage of the use of computer technology is the fact that a very large data base now exists in machine-readable form on which to base subsequent publications and on which other information science activities can be founded.

2.3 OBJECTIVE OF THE DICTIONARY

The general objectives set for the MAD were:

- Use of Automatic Data Processing Techniques

  The development of a computer system to support all the processing required in the production of the dictionary was to be accomplished using as much off-the-shelf software and hardware as available to minimize costs. NASA's Scientific and Information Facility (STIF) supplied the hardware and software. The IBM 360/65 Operating System with appropriate peripheral equipment was used. The system included an on-line data entry capability with complete text editing facilities. A software system that included computer photocomposition for a phototypesetter at NASA STIF was employed as the nucleus of the special software needed to support the dictionary.

- Size

  It was recognized at the outset that the MAD could not contain all the terms required to meet the satisfaction of all interested parties. The initial goal was 7500 items or entries for which English definitions would be supplied. Subsequent editions would contain corrections of any deficiencies in addition to new items.

o Scope

The MAD is divided into three major sections: (1) English language terms and definitions with translations in German, Spanish, French, Greek, Italian, Dutch, Portuguese, Russian, and Turkish; (2) indexes in all the non-English languages; and (3) a list of acronyms and abbreviations.

o Coverage

Twenty-three categories of terms were included in the initial term selection. The sources are shown in Figure 2-1. Particpating NATO countries supplied the translations of the terms in their respective languages; Russian translations were done at NASA STIF by a professional technical translator. A synergistic effect was obtained through the use of multilingual editors and lexicographers.

2.4 CHRONOLOGY

The AGARD MAD effort began in the spring of 1974 and concluded in the fall of 1980. Activities during this period included standard publications procedures a well as the liaison activities necessary to deal with a committee distributed throughout the world. It was necessary to obtain agreement with respect to format and layout, scope and coverage, and content and substance. The methodology for interaction by the contributors had a significant impact on the amount of time required to attain the goals. The following is a synopsis of events that led to the production of the AGARD MAD:

Spring 1974	Systems analysis and functional design
Summer 1974	Test data tape received from Europe
Fall 1974	Software development and interfaces for first draft completed; production data tape received from Europe
Winter 1974	First draft AGARD MAD dispatched to required nations
Fall 1975	Selection of format and style by MAD Working Group; software development and interfaces for second draft completed
Winter 1975	Last corrections received for terms and definitions addendum data tape received from Europe
Spring 1976	Second draft AGARD MAD dispatched to required nations; magnetic tape of second draft AGARD MAD sent to Germany
Fall 1976	Production processing documentation guidelines published

Code	Source
001	BSI 185 British Standard Glossary of Aeronautical and Astronautical Terms 1969-1973
002	BSI 4236 British Standard Glossary of Terms relating to Air Cushion Vehicles
003	BSI 661 British Standard Glossary of Terms relating to Acoustics
005	BSI 185 1964 (for Navigation terms)
010	AGARD Aeronautical Multilingual Dictionary 1960 and its First Supplement 1963.
011	Meteorological Office (U.K.)
015	AGARDograph No. 153. Glossary of Aerospace Medical Terms. 1971
020	AGARD Consultant (Melzig) (Parachutes)
030	European Organisation for Quality Control (EOQC) Glossary of terms used in Quality Control. 1972
035	Mathematical Dictionary, James & James
040	NASA CR 2376 Handbook of noise ratings. April, 1974
045	Chambers Technical Dictionary
050	NATO Glossary (AAP-6K)
051	Joint Services Glossary (UK) JSP 110 (1973)
052	Air Standards Co-ordinating Committee.
500	NASA Aeronautical Dictionary
501	AAP-6(M)
502	AGARD Panel Executives
503	AGARD Panel
504	U.S. Military
505	I.C.A.O.
506	Mil-Std
507	British Standard.

Figure 2-1 -- List of Sources and Codes

Summer 1977	Software development and interfaces for page proofs completed
Fall 1977	Last translations received
Winter 1977	Page proofs of definitions and translations dispatched to nations
Spring 1978	Last corrections received from nations for translations; analysis and resolution of anomolies and substantive errors started
Spring 1980	Final corrections for all aspects of AGARD MAD received
Summer 1980	Final Photocomposed camera-ready pages of AGARD MAD produced
Fall 1980	Printing and distribution of AGARD MAD

2.5 METHOD

The approach to the production of the AGARD MAD took into acccount the fact that the people involved were located all over the world. The active members of the Working Group (later the Sub-Committee) met many times in the United States and in Europe during the development of the book and were instrumental in its design and makeup. They reported regularly to the Technical Information Panel, which is composed of representatives from all the nations of NATO, and they established a liaison with technical representatives in the appropriate countries for concurrence in term selection an subsequent translation into French, Dutch, German, Greek, Italian, Portuguese, Turkish, and Spanish. The delegates from NATO countries relied on their national experts for consultation and translations.

At the outset of the project, a comprehensive study and functional design for computerized production was accomplished by the staff of NASA STIF. The study covered alternatives and tradeoffs and their costs with respect to the various facets of the MAD. The character set for the dictionary was defined, and the data entry requirements were analyzed. The character set contained all English alphabetic characters, accents, numerics, and punctuation, as well as the complete Greek and Cyrillic alphabets. Data entry was to be accomplished in two phases: The first set of data contained the English language terms and their definitions, categories, and subcategories; the second phase was the keyboarding of the non-English language translations including accents, Greek characters, and Cyrillic characters. Both uppercase and lowercase alphabet characters were accommodated. An analysis of proof and review requirements, alternative fonts, photocomposition resources available, hard copy preparation and distribution to reviewers, and mock-up page layouts were included in the initial study.

Using this analysis, the Working Group made major decisions that resulted in the following procedures:

- Alpha-Numeric, Ltd., Great Britain, was selected to keyboad the initial set of English language terms and their definitions, categories, and subcategories and to prepare a computer magnetic tape of the data.

- Software was developed at NASA STIF to convert the Alpha-Numeric data into a convenient format for subsequent processing, for example, generation of proof copy from a line printer, text entry and editing, and photocomposition. Figure 2-2 shows a sample of the first proof.

- Full documentation and instructions were developed by NASA STIF personnel and distributed to all parties concerned.

- Additional hardware and software were installed at NASA STIF to support the production of the AGARD MAD. This consisted of special sort routines, proof printout packages, character translations, page style and layout formats for photocomposition, and new fonts for the existing photocomposition device. The NASA Online and Input Photocomposition System (NOIPS), based on an IBM package called the Administrative and Terminal Sytem (ATS), was used for text editing. ATS supplies full text updating capability through IBM Selectric typewriter style terminals.

- After an appropriate complement of terms was processed, proofs were distributed to members for selection of terms and inclusion of new terms. Figure 2-3 shows a sample of the proofs used by the translators.

- NASA STIF personnel keyed in the remainder of the terms and prepared new proofs for translators. A data base on magnetic tape was transmitted to the German members, whose computer used an existing German/English thesaurus.

- NASA STIF personnel prepared sample pages and corresponding cost data so that the Working Group could select the final layout and style of the AGARD MAD.

advection
1501
The process of transfer by horizontal motion in the atmosphere, e.g., the transfer of heat from low to high latitudes.
***** MAD1483 LINE # = 16 *****

advisory area
1302
A designated area where an air-traffic advisory service is available.
***** MAD1437 LINE # = 1 *****

advisory route
1302
A route along which an air-traffic advisory service is available.
***** MAD1437 LINE # = 7 *****

aerial recovery canopy
1201
A parachute canopy which is designed to provide the necessary structural andor descent characteristics required for air snatch and subsequent payload retrieval operation.
***** MAD1346 LINE # = 13 *****

aerial target
0501
A target designed to be towed or flown in the air, and used in air-to-air and surface-to-air gunnery training.
***** MAD1001 LINE # = 12 *****

aero-engine
0802
An engine used to provide the main propulsive or lifting power for an aircraft.
***** MAD1584 LINE # = 19 *****

aero-isoclinic wing
0502
A wing designed to maintain the same angle of incidence when deformed under aerodynamic loads.
***** MAD1265 LINE # = 13 *****

aero-otitis media
1702
An acute inflammatory condition of the middle-ear initiated by a pressure imbalance across an intact tympanic membrane. Generally used as synonymous with otitic barotrauma. Also sometimes spelt aerotitis media.
***** MAD1831 LINE # = 1 *****

aeroarthrosis
1702
The formation of a perceptible but painless accumulation of gas within a joint space as a result of reduction of atmospheric pressure.
***** MAD1829 LINE # = 17 *****

aerobatics
0202
Manoeuvres intentionally performed with aircraft, other than those required for normal flight.
***** MAD1136 LINE # = 6 *****

aerobiology
1701
The study of the distribution of living organisms freely suspended in the atmosphere.
***** MAD1800 LINE # = 26 *****

Figure 2-2 -- First Proof Listing Page

10401 alleviation factor 0301 1176006	See gustalleviation factor.
10402 buckling 0301 1145021	A structural deformation due initially to instability under load, irrespective of whether the deformation is elastic or permanent or whether it leads at once to collapse or not.
10403 creep buckling 0301 1145028	Critical terminal buckling resulting from slow and steady increase in the deformation of a structure under a constant load.
10404 design load 0301 1020001	A specified load that a structural member or part should withstand without failing.
10405 dynamic load 0301 1024007	A load imposed by dynamic action due to the acceleration of an aircraft, as imposed by gusts, by manoeuvring, by landing, by firing aircraft armament, etc.
10406 elastic axis 0301 1028001	A line or axis in a structure or member, such as a wing, about which torsional deflection occurs when a torque is applied.
10407 elastic centre 0301 1028007	A point within a section of a structure or member, such as an aerofoil section, at which the application of a small load will cause transverse deflection but not torsional deflection, hence a point in a section about which torsional deflection occurs.
10408 factor of safety 0301 1146001	The factor by which a limit load is multiplied to produce the load to be used in the design of an aircraft or part of an aircraft. It is introduced to provide a margin of strength against loads greater than the limit loads, and against uncertainties in materials, construction, load estimation and stress analysis
10409 fineness ratio 0301 1146022	The ratio of the length of a body to its maximum transverse dimension or, sometimes, to some equivalent dimension.
10410 flexural centre 0301 1176021	See shear centre.
10411 flight envelope 0301 1147001	A diagram in which, for a particular aircraft type, the specified design normal accelerations (as multiples of g) form the ordinates and the corresponding equivalent airspeeds the abscissae. The boundary of the diagram forms a closed figure which defines the design limits for the aircraft concerned for the specific flight altitude involved.
10412 full load 0301 1043022	The entire load sustained by an aircraft at rest or in a condition of unaccelerated flight the amount of this load, equivalent to the weight of the aircraft.

Figure 2-3 — Page Used for Translation

- NASA STIF personnel developed the technique to keyboard non-English language translations with provisions for accents, Greek characters, and Cyrillic characters. Accents were accommodated with a special overstrike keying technique; Greek and Russian material was input with a special Selectric font ball by individuals trained in the languages. Figure 2-4 shows a page from a representative translation manuscript.

- NASA STIF personnel prepared page proofs of the terms, definitions, and translation sections for review.

- NASA STIF personnel keyed and prepared an abbreviations and acronyms section from sources submitted by the Working Group.

- After comprehensive editorial and in-depth review, NASA STIF personnel prepared camera-ready copy.

A comprehensive Workflow PERT Chart, shown in Figure 2-5, was prepared as part of the requisite documentation of the AGARD MAD effort.

2.6 SECTIONS OF THE DICTIONARY

2.6.1 Definitions and Translations

The first part of the dictionary is an alphabetical list of English terms, their definitions in English, and translations into the nine other languages. The sort sequence of the items is in the standard library mode. The following fields are displayed:

- Item number (in a one-up sequence starting with 10001)
- English term
- English definition (including multiple definitions, synonyms, and homonyms)
- Translations (and their identification codes) in the following order:

DE	German
ES	Spanish
FR	French
HE	Greek (in Greek font)
IT	Italian
NE	Dutch
PO	Portuguese
RU	Russian (in Cyrillic font)
TU	Turkish

ENGLISH	FRENCH
Acceleration error	Erreur de fau nord
Accelerations (aerospace medicine)	Accéleration
Accelerator pump	Pompe de reprise
Accelerometer	Accéleromètre
Acceptance inspection	inspection acceptation
Acceptance number	nombre acceptation
acceptance sampling	d'échantillons acceptation
acceptance sampling plan	d'enchantillons plan acceptation
acceptance trials	d'essai acceptation
accessory gearbox	accessoire carter engrenages
accordion folding	pliante accordéon
accuracy	exactitude
accuracy in the mean	d'moyen exactitude
acoustic fatigue	fatigue acoustique
acoustic fatigue test	l'essai fatigue acoustique
acoustic liner	ligner acoustique
acoustic spectrum	spectre acoustique
acquisition	acquisition
action limits	limite action
active guidance	guidage l'active
active redundancy	redondance l'active

Figure 2-4 — Translation Manuscript Page As Received

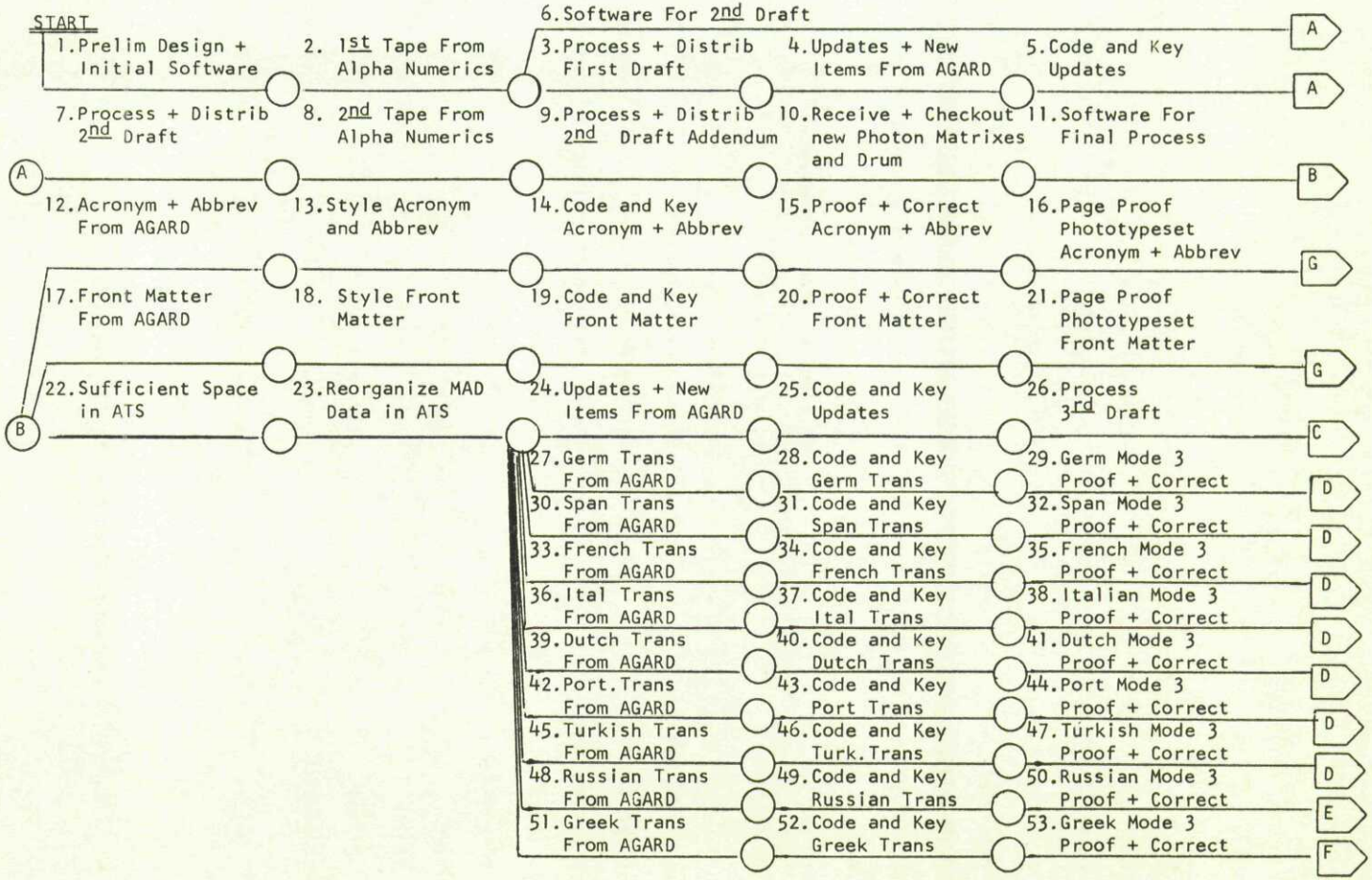

Figure 2-5 — AGARD MAD Workflow PERT Chart

1 of 2

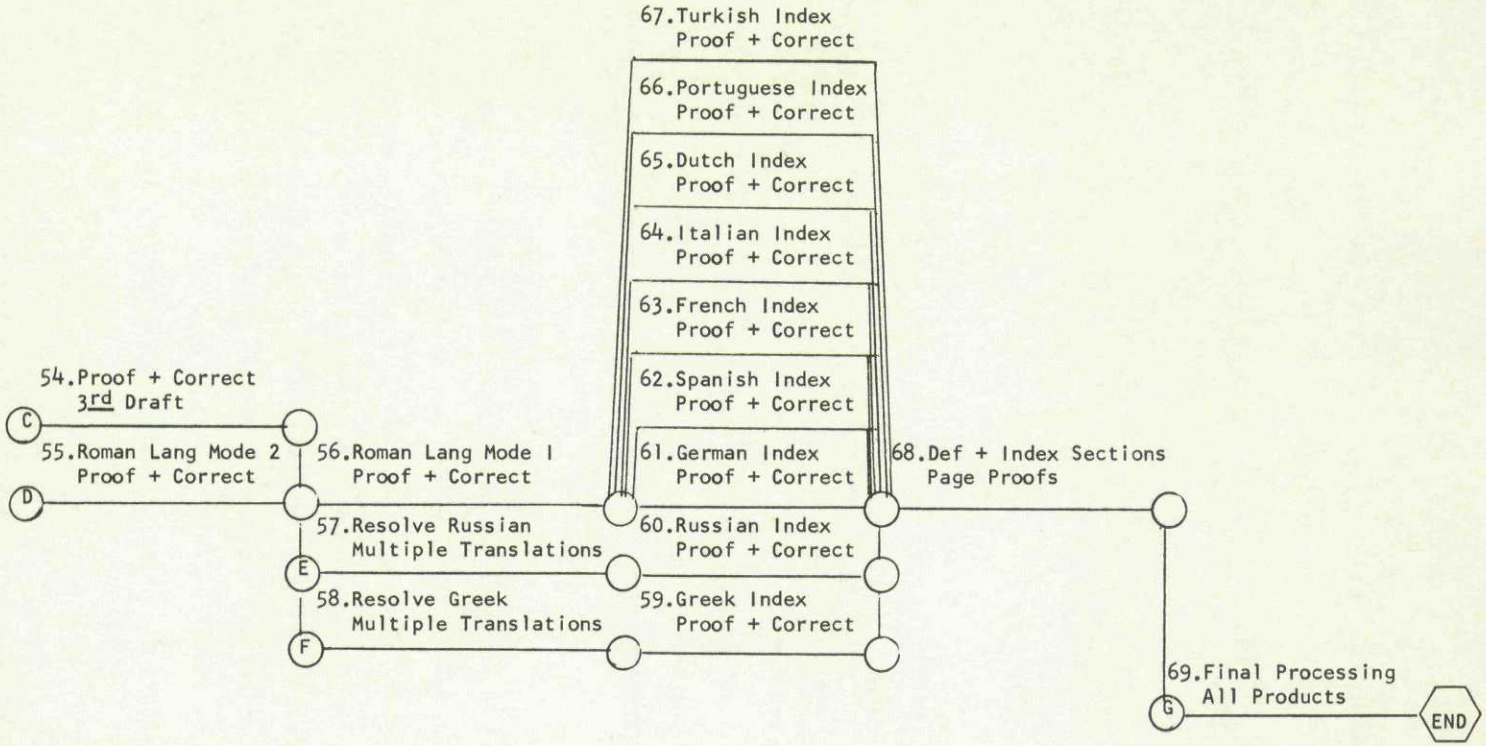

Figure 2-5 (Cont.) — AGARD MAD Workflow PERT Chart

2 of 2

2.6.2 Front Matter

The front matter contains the following elements (all but the instructions are in English and French):

- Preliminary title pages
- Table of Contents
- Preface
- Introduction
- Acknowledgements
- Instructions in English
- Instructions in French
- Instructions in Dutch
- Instructions in German
- Instructions in Greek
- Instructions in Italian
- Instructions in Portuguese
- Instructions in Turkish
- Instructions in Spanish
- Instructions in Russian

The preface contains a statement by the chairman of AGARD, Dr. Alan M. Lovelace, Deputy Administrator, U.S. National Aeronatics and Space Administration, on the purpose and objectives of the dictionary as a tool for scientists, engineers, and translators in the field of aeronautics. The introduction contains a statement of standards and introductory comments relating to the characteristics and idiosyncrasies of the dictionary. The acknowledgements contain a recognition of authorities and an expression of appreciation to cognizant personnel and agencies involved in the preparation of the dictionary. The instructions contain a brief description of the dictionary and a set of simple directions for its use.

2.6.3 Index Terms

The index is divided into nine subsections containing alphabetical lists of terms in languages other than English. Each term is accompanied by a reference or item number, keyed to its English language equivalent in the first part of the dictionary. Equivalent translations, synonyms, and homonyms are alphabetically sorted according to standard dictionary rules.

2.6.4 Abbreviations and Acronyms

This section is a list of aeronautical, aerospace, and related acronyms and abbreviations and their meanings. The acronyms and abbreviations are mixed and arranged in alphabetic order.

3. SOFTWARE REQUIREMENTS AND CAPABILITIES

3.1 BACKGROUND

All the computer programs written in support of the dictionary are now part of the library of software available at NASA STIF and can be used again or moved to another computer environment, as appropriate. No major existing program at NASA STIF was altered for the development of the dictionary, and only special purpose or interface programs had to be written. However, since the software was modified, a few latent errors (or bugs) were discovered and corrected.

The following existing software was used for MAD:

- Admministrative Terminal System (ATS)
- NASA Online Input and Photocomposition System (NOIPS)
- Scientific and Technical Information Modular System (STIMS)

The following special purpose software was prepared for MAD:

- MAD to ATS Conversion
- MAD to STIMS Conversion
- Special Sort

3.2 ADMINISTRATIVE TERMINAL SYSTEM (ATS)

ATS is an IBM-supplied software package in the public domain that operates under the IBM 360 Operating System. Minor enhancements made at NASA STIF enable its use for a wide variety of STIF projects. ATS is an on-line, time-sharing, remote typewriter terminal (IBM 2741 compatible) text processing system that has full text edit capabilties including insert, replace, delete, move, etc., providing all necessary word processing functions.

Each item is stored on a random access disc, is available to a terminal operator in an interactive mode for text update, and can be addressed through its item or reference number. Each of the fields contained in the item is identified by an arbitrary code chosen such that unique algorithms can be applied. The fields and their ATS codes are as follows:

CODE FIELD

@1 Category Numbers -- Four-digit numeric that represents the broad and specific categories of the item. These data are not displayed in the printed dictionary; however, they were used to distribute review copies to cognizant individuals in designated fields of expertise.

@2 English Language Term --Uppercase/lowercase characters consisting of one or more words.

@3 Prime Definition --Uppercase/lowercase text containing the prime definition of the term in English. The text of the definition flows from line to line.

@4 Additional Definitions -- If the prime definition is not adequate to describe the term, the definition is delineated into multiple components of up to ten parts. The parts are numbered 1,2,3,etc., and the equivalent translations are numbered correspondingly.

@13 Source of Prime Definition -- Three-digit numeric that represents the source of the definition. These data are not displayed in the printed dictionary; however, they were used to authenticate the exact wording prepared by the experts and reviewers.

@14 German Translation

@15 Spanish Translation

@16 French Translation

@17 Greek Translation

@18 Italian Translation

@19 Dutch Translation

@20 Portuguese Translation

@21 Russian Translation

@22 Turkish Translation

NOTE 1: The non-English language translations using Roman characters were keyed on an ATS terminal with a standard keyboard and standard IBM Selectric ball element. The Greek language and Russian language translations were keyed using the same keyboad; however, special overlays were prepared for the Greek and Cyrillic characters corresponding to the Greek or Cyrillic IBM Selectric ball. Under software control, the appropriate character conversion was accommodated in the data base and subsequent output displays.

NOTE 2: An accent is keyed immediately after the character for which it is intended as a two-character doublet, where the first is a backspace (which is a character in ATS) and the

second is either the accent or a coded substitute for the accent. Of course, the photocomposed output has the correct accent; however, if the terminal or computer line printer cannot display the proper accent because of its limited character set, the proof contains an overstrike at the correct position, indicating that the correct accent was applied.

NOTE 3: Gender/case designations are indicated by (m), (f), (n), (pl), etc., as appropriate, and multiple translation terms are entered with @ signs as separators such that the software can determine where one term ends and the next one begins.

A sample ATS display is presented as Figure 3-1.

3.3 NASA ONLINE INPUT AND PHOTOCOMPOSITION SYSTEM (NOIPS)

NOIPS was designed, developed, and implemented at NASA STIF for standard production use. This system required no programming development modifications to product MAD; however, the style and format of the MAD pages had to be designed, defined, and tested. A Photon 713 photocomposition device located at NASA STIF was used because it was cost effective and readily available. A Cyrillic font and some special characters and accents were needed, and custom film strips, matrixes, and an additional drum to hold the entire character requirements of the AGARD MAD were acquired. Several attempts were required to provide a correct array because of the complexity and the lack of prior experience in multilingual publications. Some of the problems encountered were the inclusion of script style Cyrillics along with the standard style, accents not anticipated, characters not identified (dotless turkish i and final Greek sigma), and accents not oriented properly over/under the characters.

NOIPS operates on one of two input formats, ATS and STIMS. ATS input is employed for the most part to photocompose unstructured nonrecurring text that does not require preliminary processing, such as the front matter and the acronym and abbreviation sections of the dictionary. STIMS is a data base management system that provides a common format for special functions such as nonstandard sorting and index preparation automatically for photocomposition.

When ATS data are input to NOIPS, the commands to process the data and instruct the photocomposer machinery (e.g., displacement, point size of the typeset characters, leading space between the lines, etc.) are either contained directly in the text data stream, or the callouts for stored or predefined procedures are embedded within the text. This technique permits maximum flexibility for the page layout phase. The typographic commands available to the computer-aided photocomposition routines are varied and comprehensive and afford the same

```
@1 1102@1204
@2 accuracy
@3 Generally the closeness of computations
or estimates to the exact values.
@13 504
@14 genauigkeit
@15 exacto (perfecto)
@16 exactitude
@18 accuratezza
@19 nawkeurigheid
@20 exactido
@22 doğruluk
"17·ακπιέλλά
=21 ещсртщыё
```

Figure 3-1 — Sample ATS Display of MAD Item

typograhic versatility as standard typesetting equipment. The codes are cryptic but can be clearly understood by the trained user and contain elements such as ps8, which stands for point size 8; b18, which represents body lead 8; etc. This nomenclature is a language in itself, and the NOIPS software acts as a "language interpreter."

When STIMS data are input to NOIPS, the same typographic commands are used; however, they are no longer included in the stream of text. Since STIMS has specific field tags, and since each field is to be processed in the same manner, independent of the item, field tags precede each field and serve as pointers to the desired set of typesetting command codes.

3.4 Scientific and Technical Information Modular System (STIMS)

Like NOIPS, STIMS was designed, developed, and implemented at NASA STIF for standard production activities. This system required no programming development modifications to produce MAD, except for the inclusion of a sort algorithm that accommodated the various requirements and characteristics necessary to produce non-English terms that contain diacriticals and special character sets. In addition, STIMS tables had to be generated that not only described the detailed field characteristics but were also used internally to drive the software to produce index data for photocomposition. As part of the daily production process at NASA STIF, a viable allocation of resources is maintained within the computer environment, including backing storage space. Because the production of the AGARD MAD extended over a significant period of time, data has to be stored under STIMS rather than ATS since STIMS deals with mostly archival information and ATS is used for in-process activity. Tables were generated to convert the data from STIMS to ATS format as part of the production requirements for AGARD MAD updates.

3.5 MAD TO ATS CONVERSION

Special purpose software to convert the machine-readable data provided by Alpha-Numeric Ltd. into ATS format was developed and implemented by NASA STIF personnel. Specific rules were agreed on by the staff of the two organizations such that consistent techniques were employed in the original and addendum data submitted for the English language terms, their definitions, categories, and sources. Magnetic tapes were used for communication, and little difficulty was encountered in reading the data and preparing computer line printer proof output to review by cognizant personnel.

3.6 MAD TO STIMS CONVERSION

A special purpose program was developed and placed into production to convert the data in ATS relating to the English language terms, definitions, and non-English language translations into the STIMS format for subsequent STIMS software processing. Existing standard utility routines were employed to locate the records that required conversion and to perform the actual input/output functions.

4. ENGLISH TERMS AND DEFINITIONS

4.1 BACKGROUND

Because of cost considerations, data entry of English language terms, categories, sources, and definitions was accomplished in Great Britain by Alpha-Numeric Ltd. The copy was provided to Alpha-Numeric Ltd. by the members of the Working Group on the Mad and foreign representative with cognizance of the subject. The MAD was a routine keying activity for Alpha-Numeric Ltd. When the data were received at NASA STIF in machine-readable form on magnetic tape and processed into the computer environment for production of proofs for subsequent review, difficulties became evident. Data entry and quality assurance personnel were accustomed to exercising editorial freedom with respect to spelling, grammar, and syntax. To expedite processing, they did not ask an expert in the field or the author of the piece when an obvious error was identified. This approach brought about the "correction" of British terminology and British spelling to conform to U.S. standards. Needless to say, as soon as this was discovered, the British style of expression and spelling was reentered; however, vigilance was raised to keep this "helpful" correction assistance from recurring. A note of warning should have been identified at that time, but was not, with respect to hyphenation rules. As it turns out, the definitions are expressed in the British style with British spelling, however, hyphenation and word break rules with respect to those employed in the U.S. according to GPO standards did introduce awkward syntax in some instances.

At the outset of the project, the final size of the dictionary was not determined; however, the data were to be processed as they were transmitted and proofs were to be generated on a timely basis. At the conclusion of the first addendum stage, the dictionary contained approximately 7500 terms. Because of cost considerations, no new terms were accepted. After consolidation and refinement of the data, the dictionary contained 7319 terms.

4.2 SUBSTANCE OF THE TERMS AND DEFINITIONS

A term contains the uppercase/lowercase text in English, with only acronyms, abbreviations, or proper names shown in uppercase characters. The noun form of the term was employed in all appropriate instances.

Similarly, the definition is a grammatically correct collection of sentences with proper syntax displaying an articulate and concise meaning. Since the terms came from a variety of contributors, an editorial standard for terms and definitions was not imposed in order to retain a link to authoritative reference sources; thus both British and United States spelling will be found in the text.

Many of the definitions in the dictionary are original, but many were extracted from material already published and are presented either verbatim or in a slightly amended form. Permission to publish copyrighted material was readily obtained.

If a term could not be described adequately with a single explanation, or if the term contained multiple parts or meanings, the definition was delineated into multiple components. Cross references to related terms were made with a "See" statement.

Superscripts and subscripts were not used; instead a standard form was employed (e.g. H2 for hydrogen).

5. REVIEW OF TERMS

The content of a dictionary such as the MAD cannot be static. It is acknowledged that work will continue, and many of the shortcomings of the 1980 edition will be corrected in subsequent editions. The precise meaning of some items changed in the time between their original entry and publication. In addition, the items may not be homogeneous because of the biases of the contributors. This not necessarily a significant feature in that the primary purpose of the dictionary is information transfer; it is not the object of a literary review. The dictionary was reviewed, updated, and scheduled for further scrutiny. As stated in the Introduction to the AGARD MAD, suggestions for inclusions in revised editions of the dictionary will be welcomed and should be sent to AGARD/NATO, France.

It became apparent during the development of the AGARD MAD that the wealth of information available through the participation of a wide variety and large number of contributors was rewarding even though it caused many difficulties, which were amplified when drafts were sent for review and changes and variations were requested.

The system installed at NASA STIF to accommodate change was extremely simple and thorough. The on-line interactive ATS editing system facilitated the instantaneous retrieval of the desired term through its item number; the item was then modified as directed by the editor on a marked-up manuscript page or an annotated computer-generated proof. Proofreading and review were accomplished through a visual copy check of proofs against manuscript; this was repeated until the desired quality was achieved. Complete backup to the machine data was always available due to the periodic archiving of the on-line files throughout the NASA STIF.

6. TRANSLATIONS AND DATA ENTRY

6.1 ROMAN CHARACTER TRANSLATIONS

Translations in languages that use Roman characters were entered on the IBM typewriter style terminal with a standard keyboard and standard IBM Selectric ball element. A three-character mnemonic followed by a blank character preceded the translation after the item was retrieved on-line through the item number. Multiple translations for the same term (variations, synonyms, homonyms, etc.) were acccommodated by repeating the selected mnemonic as a new line entry or connecting the additional term to a previously keyed term with a special character as a separator. The mnemonics and connecting characters were employed for data entry and update purposes only; they are not part of the published dictionary or its display. Similarly, a technique was devised to key a diacritic as a two-character doublet immediately after the character for which it was intended by using the backspace character in ATS. Thus the playback of keyed data caused an overstrike with the accent, and the backspace was reserved to signify that the character following it was to be treated specially (e.g., to be centered above or below the previous character). This technique was used to generate some special characters such as the Polish and Swedish L or O (with the slash (/)).

6.2 GREEK AND CYRILLIC TRANSLATIONS

The translations entered into the data base for the Greek and Russian languages were accomplished in the same manner as the Roman character translations, with the addition of the codes necessary to identify these languages as well as the employment of keyboard overlays and special IBM Selectric ball elements. Of special note with respect to nonstandard fonts, the keyboard operator had to be a translator trained in the use of the ATS system in order to read the manuscript input and review the hard copy. The display of the Greek and Cyrillic data with standard hard copy media (e.g., line printer) is not readily intelligible and cannot

be utilized for review. Because of the limited character set available with the hard copy devices, photocomposition was used for proofs of Greek and Russian material. To increase the turn-around time for the production of readable output, an abbreviated output format was used to dislay only the Greek or Russian along with the English term for proof purposes.

6.3 OTHER CONSIDERATIONS

As with the multiple components of a definition, the interpretation of the translations is left to the reader. For the most part, there was no intended correspondence between the various components of multiply-stipulated translations in more than one language.

7. FORMAT AND STYLE

7.1 GENERAL DESCRIPTION

The trim size of the AGARD MAD is approximately 21 X 26 cm(50 X 62 picas). The image area is 42 X 55-2/3 picas; the margins are 34 points inside, 40 points outside, and 36 points on top and bottom.

The running head of the three major sections contains sufficient information to identify the first item on a left-hand page and the last item on a right-hand page. Folios are centered on the bottom and consist of lowercase Roman numerals for 20 pages of front matter and Arabic numerals for 876 pages. The basic typesize is 8 points on a body lead of 8 points, and the typefaces are Universe bold and medium.

7.2 DEFINITIONS AND TRANSLATIONS

The Definitions and Translation Section has a three-column format. The items are in alphabetic sequence of the English language terms. Each item is numbered in a one-up sequence, with 10001 for the first and 17319 for the last. In addition to the item number, English term, and definition (including all the components), the translations are presented in the order described in Section 2.6.1 along with the two-character code in Times New Roman Small Caps. A case or gender designation is displayed in parenthesis and set in italics. A sample page is shown in Figure 7-1.

7.3 INDEX TERMS

The Index Terms Section has a three-column format. Each of the nine languages is sorted by the alphabetic sequence of the language. Each entry consists of two elements, the item number and the translated term from which an easy reference is made to the Definitions and Translations Section. Sample pages for each of the nine indexes are shown in Figures 7-2 through 7-10.

applied to the gyro case. The relationship of these components of drift rate to acceleration can be stated by means of coefficients having dimensions of angular displacement per unit time per unit acceleration for accelerations along each of the principal axes of the gyro (e.g., drift rate caused by mass unbalance).

DE 1. beschleunigungsabhängige Auswanderungsgeschwindigkeit *(f)*
2. beschleunigungsabhängige Driftgeschwindigkeit *(f)*
3. beschleunigungsabhängige Drift *(f)*
ES velocidad *(f)* de deriva sensible a la aceleración
FR vitesse *(f)* de dérive sensible à l'accélération (gyro)
HE *βαθμός (m) ἐκπτώσεως εὐαίσθητος εἰς ἐπιταχύνσεις*
IT velocità *(f)* di deriva sensibile alla accelerazione
NE versnellingsafhankelijke driftsnelheid
PO velocidade *(f)* de deriva sensível à aceleração
RU **скорость** *(f)* **ухода гироскопа зависящая от наличия ускорения**
TU ivmeye duyarli kayma derecesi

10027
acceleration squared sensitive drift rate (gyro) Those components of systematic drift rate that are correlated with the second power or product of linear acceleration applied to the gyro case. The relationship of these components of drift rate to acceleration squared can be stated by means of coefficients having dimensions of angular displacement per unit time per unit acceleration squared for accelerations along each of the principal axes of the gyro and angular displacement per unit time per the product of accelerations along combinations of two principal axes of the gyro (e.g., drift rate caused by anisoelasticity).

DE 1. beschleunigungsquadratabhängige Auswanderungsgeschwindigkeit *(f)*
2. beschleunigungsquadratabhängige Driftgeschwindigkeit *(f)*
3. beschleunigungsquadratabhängige Drift *(f)*
ES velocidad *(f)* de deriva sensible al cuadrado de la aceleración
FR vitesse *(f)* de dérive sensible au carré de l'accélération
HE *βαθμός (m) ἐκπτώσεως εὐαίσθητος εἰς τετράγωνον ἐπιταχύνσεως*
IT velocità *(f)* di deriva sensibile al quadrato della accelerazione
NE driftsnelheid tengevolge van kwadratische versnelling
PO velocidade *(f)* de deriva sensível ao quadrado da aceleração
RU **скорость** *(f)* **ухода гироскопа зависящая от квадрата ускорения**
TU ivmenin karesine duyarli kayma derecesi

10028
accelerator (a) A material which, when mixed with a catalyzed resin, will accelerate the chemical reaction between the catalyst and resin.
(b) A compounding ingredient that speeds up the vulcanization of rubber, enabling it to take place in a shorter time, and/or at a lower temperature.

DE 1. Härtebeschleuniger *(m)*
2. Beschleuniger *(m)*
3. vulkanisationsbeschleuniger *(m)*
ES acelerador *(m)*
FR accélérateur *(m)*
HE *ἐπιταχυντήρ (m)*
IT acceleratore *(m)*
NE versneller
PO acelerador *(m)*
RU **ускоритель** *(m)*
TU 1. hizlandirici
2. akseleratör

10029
accelerator pump A mechanism which temporarily enriches a mixture with the opening of the throttle.

DE Beschleunigungspumpe *(f)*
ES bomba *(f)* de aceleración
FR 1. pompe *(f)* de reprise
2. pompe *(f)* d'accélération
HE *ἀντλία (f) ἐπιταχύνσεως*
IT pompa *(f)* di accelerazione
NE acceleratiepomp
PO bomba *(f)* de aceleração
RU 1. **помпа** *(f)* **приемистости**
2. **насос** *(m)* **приемистости**
TU akseleratör pompasi

10030
accelerometer An instrument for measuring acceleration by sensing the inertial reaction of a proof mass; e.g., an indicating accelerometer, a maximum-reading accelerometer, a recording accelerometer, etc.

DE Beschleunigungsmesser *(m)*
ES acelerómetro *(m)*
FR accéléromètre *(m)*
HE *ἐπιταχυνσίμετρον (n)*
IT accelerometro *(m)*
NE versnellingsmeter
PO acelerómetro *(m)*
RU **акселерометр** *(m)*
TU akselerometre (ivme ölçer)

10031
acceptable mean life The minimum mean life which is considered satisfactory.

DE annehmbare mittlere Lebensdauer *(f)*
ES vida *(f)* media aceptable
FR durée *(f)* de vie moyenne acceptable
HE *ἀποδεκτός μέσος βρος (m)*
IT vita *(f)* media accettabile
NE aanvaardbare gemiddelde levensduur
PO vida *(f)* média aceitável
RU **допустимый средний срок** *(m)* **службы**
TU kabul edilebilir ortalama ömür

10032
acceptable quality level (AQL) The maximum percent defective (or the maximum number of defects per hundred units) that, for purposes of acceptance sampling, can be considered satisfactory as a process average.

DE annehmbare Qualitätsgrenzlage *(f)*
ES nivel *(m)* de calidad aceptable
FR niveau *(m)* de qualité acceptable
HE *ἀποδεκτόν ἐπίπεδον (n) ποιότητος*
IT livello *(m)* di qualità accettabile
NE 1. gewenst fabrikageniveau *(n)*
2. grenskwaliteit voor de leverancier
PO nível *(m)* de qualidade aceitável
RU **допустимая доля** *(f)* **дефектных изделий в партии предъявленной к приемке**
TU kabul edilebilir kalite seviyesi

10033
acceptance The act of an authorized representative by which the buyer assumes for himself, or as the agent of another, ownership of existing and identified supplies tendered, or approves specific services rendered as partial or complete performance of the contract on the part of the contractor.

DE 1. Annahme *(f)*
2. abnahme *(f)*
ES aceptación *(f)*
FR acceptation *(f)*
HE *ἀποδοχή (f)*
IT accettazione *(f)*
NE 1. aanvaarding
2. goedkeuring
3. ontvangst
PO aceitação *(f)*
RU **приемка** *(f)*
TU kabul

10034
acceptance criteria Limits placed upon the degree of nonconformance permitted in material, expressed in definitive operational terms.

DE 1. Annahmekriterien *(n, pl)*
2. Abnahmekriterien *(n, pl)*
ES criterios *(m, pl)* de aceptacion
FR critères *(m, pl)* de conformité (de recette, d'acceptation)
HE *κριτήρια (n, pl) ἀποδοχῆς*
IT criteri *(m, pl)* di accettazione
NE 1. aanvaardingskriteria *(pl)*
2. goedkeuringskriteria *(pl)*
PO critérios *(m, pl)* de aceitação
RU **критерии** *(pl)* **приемки**
TU kabul kriteri

10035
acceptance inspection The inspection of items to decide if the lot offered is acceptable.

DE 1. Annahmeprüfung *(f)*
2. Abnahmeprüfung *(f)*
ES inspeccion *(f)* de aceptación
FR contrôle *(m)* d'acceptation (de recette)
HE *ἐπιθεώρησις (f) ἀποδοχῆς*
IT 1. collaudo *(m)*
2. controllo *(m)* per accettazione
NE ontvangstkeuring
PO 1. inspecção *(f)*
2. de aceitação
RU **приемочный контроль** *(m)*
TU kabul muayenesi

10036
acceptance number (c) The maximum allowable number of defective articles in a sample size of n.

DE 1. Annahmezahl *(f)*
2. Abnahmezahl *(f)*
ES número *(m)* de aceptación
FR nombre *(m)* d'acceptation
HE *ἀποδεκτός ἀριθμός (m)*
IT numero *(m)* di accettazione
NE goedkeurgetal *(n)*
PO número *(m)* de aceitação
RU **допустимое число** *(n)* **дефектных изделий в выборке**
TU kabul sayisi

10037
acceptance probability The percentage of inspection lots likely to be accepted when batched samples are subjected to a specific lot sampling plan.

DE 1. Annahmewahrscheinlichkeit *(f)*
2. Abnahmewahrscheinlichkeit *(f)*
ES probabilidad *(f)* de aceptación
FR probabilité *(f)* d'acceptation
HE *πιθανότης (f) ἀποδοχῆς*
IT probabilità *(f)* di accettazione
NE goedkeurkans
PO probabilidade *(f)* de aceitação
RU **вероятность** *(f)* **приемки**
TU kabul olasiliği

10038
acceptance procedure The process of basing accept/reject decisions on results obtained from the testing of samples in a proffered lot.

Figure 7-1 -- Sample Definitions and Translations Page

FR **aide *(f)* à la navigation à courte distance**

15880 aide *(f)* à la navigation à courte distance
14754 aide *(f)* à la pénétration
10558 aides *(f, pl)* à l'approche
13827 aides *(m, pl)* à l'atterrissage
17260 aile *(f)*
13563 aile *(f)* à envergure infinie
11777 aile *(f)* brisée
11983 aile *(f)* delta
11333 aile *(f)* demi-tonneau
12143 aile *(f)* double delta
16564 aile *(f)* effilée
11790 aile *(f)* en croissant
10595 aile *(f)* en flèche
13212 aile *(f)* en M
14381 aile *(f)* en M
11777 aile *(f)* en V
17286 aile *(f)* en W
12481 aile *(f)* équivalente
10157 aile *(f)* isocline
12033 aile *(f)* losange
15967 aile *(f)* montée en biais
14552 aile *(f)* ogivale
16018 aileron *(m)* à fente
14874 aileron *(m)* à fente
17000 aileron *(m)* d'extrados
15481 aileron *(m)* escamotable (spoiler de gauchissement)
12564 aileron *(m)* externe
12824 aileron *(m)* libre
12661 aileron *(m)* muni d'anti-tab
15966 aileron *(m)* oblique
10210 ailerons *(m, pl)*
10545 ailerons *(m, pl)* anti-lacet
12965 ailerons *(m, pl)* anti-lacet
12043 ailerons *(m, pl)* différentiels
12965 ailerons *(m, pl)* Frise
16167 aileron *(m)* spoiler à fente
16016 aileron-spoiler *(m)* avec bec à fente
16166 aileron *(m)* spoiler de gauchissement
16170 aileron *(m)* stabilisateur (hydravion)
12749 aileron *(m)* volet
17264 ailes *(f)*
10667 aile *(f)* soufflée
16412 aile *(f)* supercritique
11416 aile *(f)* tronquée
11688 ailette *(f)* de contrôle
16516 ailette *(f)* de queue
11707 ailette *(f)* de refroidissement
16522 aile *(f)* volante
12866 aile *(f)* volante
12401 air *(m)* comprimé de secours
11704 air *(m)* de refroidissement
15282 air *(m)* dynamique
15918 aire *(f)* à signaux
10559 aire *(f)* d'approche
13580 aire *(f)* d'approche initiale
13830 aire *(f)* d'atterrissage
13850 aire *(f)* d'atterrissage
16537 aire *(f)* de décollage
10260 aire *(f)* de manoeuvre (d'attente)
14142 aire *(f)* de manoeuvres
16538 aire *(f)* de montée au décollage
14351 aire *(f)* de mouvement
10571 aire *(f)* de stationnement
13260 aire *(f)* de stationnement
16679 aire *(f)* du col
16996 air *(m)* en altitude
14891 air *(m)* polaire
10988 air *(m)* prélevé
16879 air *(m)* tropical
15892 ajustage *(m)* à chaud
12882 ajustage *(m)* serré
10427 alcalinurie *(f)* d'altitude
10426 alcalose *(f)* d'altitude
15290 aléatoire
10761 alidade *(f)*
10766 alidade *(f)*
13226 alignement *(m)* gyromagnétique
14968 alimentatioh *(f)*
11035 alimentation *(f)* auxiliaire
13125 alimentation *(f)* par gravité
16805 alizés *(m, pl)*
17134 allée *(f)* tourbillonaire
13783 allée *(f)* tourbillonnaire de Bénard-Karman
10400 alliage *(m)*
13298 alliage *(m)* apte à prendre la trempe
11845 alliage *(m)* cryogénique
12929 alliage *(m)* de coupe
11714 alliage *(m)* de cuivre au béryllium
14456 alliage *(m)* non améliorable par trempe et revenu
14055 alliages *(m, pl)* à bas point de fusion
14088 alliages *(m, pl)* au magnésium
14415 alliages *(m, pl)* au nickel
10450 alliages *(m, pl)* d'aluminium
16741 alliages *(m, pl)* de titane
13009 alliages *(m, pl)* fusibles
13294 alliages *(m, pl)* résistant à la chaleur
10612 allongement *(m)*
10952 allongement *(m)* de l'aube
10980 allongement *(m)* de pale
13971 allongement *(m)* des suspentes
12293 allongement *(m)* efficace
10396 allotropie *(f)*
13570 allumage *(m)* en vol
16433 allumage *(m)* par tête chaude
13482 allumeur *(m)*
16751 allumeur *(m)* torche
10406 almicantarat *(m)*
15469 altération *(f)* réparable
15504 altération *(f)* réversible
10420 altimètre *(m)*
10007 altimètre *(m)* absolu
10833 altimètre *(m)* barométrique
15009 altimètre *(m)* barométrique
11173 altimètre *(m)* cabine
15211 altimètre *(m)* radar
16071 altimètre *(m)* sonore
10422 altimétrie *(f)*
10423 altitude *(f)*
12391 altitude *(f)*
10008 altitude *(f)* absolue
15010 altitude *(f)* barométrique
11174 altitude *(f)* cabine
11189 altitude *(f)* corrigée
11795 altitude *(f)* critique
11840 altitude *(f)* de croisière
11841 altitude *(f)* (niveau *(m)*) de croisière
10118 altitude *(f)* de l'aérodrome
12204 altitude *(f)* de largage
11988 altitude *(f)* densimétrique
12466 altitude *(f)* d'équilibre
15314 altitude *(f)* de rétablissement à la puissance nominale
15666 altitude *(f)* de sécurité
16830 altitude *(f)* de transition
13523 altitude *(f)* indiquée
14282 altitude *(f)* minimale de sécurité
14277 altitude *(f)* minimum de vol
15314 altitude *(f)* nominale
12482 altitude *(f)* oxygène équivalente
15010 altitude *(f)* pression
15028 altitude-pression *(f)*
13528 altitude *(f)* pression indiquée
15212 altitude *(f)* radar
15934 altitude *(f)* simulée
16887 altitude *(f)* vraie
10448 altocumulus *(m)*
10449 altostratus *(m)*
10451 aluminage *(m)*
13165 alvéole *(m)* de point fixe
11299 amarrage *(m)* central
10264 amarrage *(m)* d'un appareil
15859 ambiance *(f)* 'manche de chemise'
10960 âme *(f)* d'aube
16115 âme *(f)* de longeron
12122 amerrissage *(m)* forcé
11543 amincissement *(m)* de compression
10458 amino-plastiques *(m, pl)*
11369 amorçage *(m)*
11901 amortir
11903 amortissement *(m)*
10134 amortissement *(m)* aérodynamique
11798 amortissement *(m)* critique
11743 amortissement *(m)* de Coulomb
17099 amortissement *(m)* des vibrations
16373 amortissement *(m)* structural
15860 amortisseur *(m)*
16045 amortisseur *(m)*
11902 amortisseur *(m)*
11083 amortisseur *(m)* (pneus)
15857 amortisseur *(m)* de shimmy
15870 amortisseur *(m)* de train
10961 amortisseur *(m)* de traînée
13813 amortisseur *(m)* de traînée
10460 amphibie *(m)*
11018 amphibie *(m)* à coque
10461 amplitude *(f)*
15306 amplitude *(f)* de charge
15307 amplitude *(f)* de contrainte
10463 analemme *(m)*
12705 analyse *(f)* par éléments finis
12045 analyse *(f)* thermique différentielle
10464 anamétrique
16034 ancrage *(m)*
16517 ancrage *(m)* par la poupe
10468 anémographe *(m)*
10469 anémomètre *(m)*
10350 anémomètre *(m)*
13391 anémomètre *(m)* à fil chaud
13859 anémomètre *(m)* à laser
10317 anémomètre *(m)* portatif
16870 angle *(m)* à l'équilibre
13112 angle *(m)* au sommet du fuseau
13571 angle *(m)* d'afflux
12752 angle *(m)* de battement
13902 angle *(m)* de bord d'attaque
16811 angle *(m)* de bord de fuite
11684 angle *(m)* de braquage (gouvernes)
10206 angle *(m)* de braquage d'aileron
15634 angle *(m)* de braquage de la gouverne de direction
12394 angle *(m)* de braquage de la profondeur
12396 angle *(m)* de braquage d'élevon
16501 angle *(m)* de braquage du volet compensateur
10948 angle *(m)* de calage de la pale
11574 angle *(m)* de cône
12049 angle *(m)* de conicité d'un diffuseur
11616 angle *(m)* de contact
11771 angle *(m)* de crabe
10483 angle *(m)* de déflexion (des filets d'air) vers le bas
10491 angle *(m)* de déflexion vers le haut (des filets d'air)
10480 angle *(m)* de dépression
10488 angle *(m)* de dérapage
12179 angle *(m)* de dérive
12296 angle *(m)* de dièdre efficace
16468 angle *(m)* de flèche (arrière ou avant)
13866 angle *(m)* de gite
12323 angle *(m)* d'éjection
17295 angle *(m)* de lacet
13886 angle *(m)* de lancement
14073 angle *(m)* de Mach
16680 angle *(m)* de manette
13604 angle *(m)* d'entrée (gyro)
11888 angle *(m)* de pas cyclique
13093 angle *(m)* de plané (de descente)

Figure 7-2 -- French Index

NE **afdichtingsmiddel** *(n)*

15743 afdichtingsmiddel *(n)*
15743 afdichtmiddel *(n)*
10191 affine deformatie
16815 afgaande wervel
11872 afgebroken keuring
10875 afgebroken landing
12084 afgebroken nadering
15747 afgedichte inwendige balancering
11020 afgeknot rompachterstuk *(n)*
11416 afgeknotte vleugel
10391 afgelegde afstand bij uitbranden
12003 afgeleide informatie
15718 afgeregeld conform Schuler-slingering
15819 afhandelen
15420 afkeuren
15421 afkeuring
15422 afkeurkriterium *(n)*
17243 afkoelingsindex
11954 afleidingsdoel *(n)*
11613 afnemersrisiko *(n)*
14742 afpelbare laag
10300 AFR
15719 afregelen conform schuler-slingering
10387 afregeling
16808 afrollen
12754 afronden
14162 afschermen
16105 afschilferen
15204 afschrikharden
15205 afschrikken
12872 afschrikken in waterdamp
15845 afschuifbreuk
15846 afschuifspreiding
15848 afschuifsterkte
12741 afslaan
16704 afsluiter
11615 afsmeltelektrode
13021 afstand
11498 afstandbediening
13700 afstandhouders *(pl)*
12112 afstandmeetapparatuur (DME)
11874 afstandsfout door breking
15523 afstelhoek
15521 afstelling
12865 afstelling
15527 afstelstand
14948 afstroomstuwkracht
14946 afstroomweerstand
10988 aftaplucht
11177 aftaplucht voor kabinedruk
15706 aftasten
11745 aftellen
10199 aft fan
10200 AFTN-station *(n)*
10161 afvoer van patiënten door de lucht
13880 afvuren
12322 afvuren (het)
12590 afvuurgordijn *(n)*
15762 afvuurhandgreep bevestigd aan de zitpan
12594 afvuurhandgreep met gelaatschrem
12595 afvuurmechanisme *(n)* met gelaatscherm
12593 afvuurschermholte
12207 afwerpbare tank
13769 afwerpbare tank
15165 afwerpbare uithoudertank
12203 afwerpen
14060 afwerpen met lage valsnelheid
12093 afwerper
12204 afwerphoogte
12205 afwerphoogte
10283 afwerplaadkist
12208 afwerpproef
15429 afwerppunt *(n)*
12209 afwerpzone
12086 afwijking
12022 afwijking
13879 afworp
15898 afzetten
11883 afzetten
16985 afzonderlijke injekteur (per cylinder)
12315 afzuiging door expansie
17184 afzwaaien
10203 agoon
10280 air data computer
10058 akoestische breking
10051 akoestische dispersie
10052 akoestische emissie
10060 akoestische trilling
10059 akoestisch spektrum *(n)*
10072 aktief doelzoeken
10073 aktief doelzoekende geleiding
10067 aktiegrenzen *(pl)*
10067 aktielijnen *(pl)*
11672 aktielijnen *(pl)*
16083 aktieradius
15275 aktieradius
13509 aktieturbine
10070 aktieve dekodering
10071 aktieve geleiding
10068 aktieve kool (stof)
10074 aktieve redundantie
10075 aktieve reparatietijd
10069 aktivator
11500 aktiveren van alle schietstoelen met een kommando
10382 alarmering(sdienstverlening)
15334 alarmloods
15335 alarmpositie
10381 alclad *(n)*
10409 alfa-cellulose
10411 alfa-ijzer *(n)*
10383 alfinrubbers *(pl)*
10384 alford-raamantenne
13055 algemeen luchtverkeer *(n)*
11644 algemeen verkeersgebied *(n)*
10579 algemeen verkeersleidingscentrum *(n)*
13056 algemene luchtvaart
10580 algemene verkeersleiding
10389 alkydharsen *(pl)*
10388 alkydkunststoffen *(pl)*
10403 alleweervliegtuig *(n)*
10396 allotropie
10405 allylhars
10404 allylkunststoffen *(pl)*
10407 alocrom
10408 alodine
11314 als luchtwaardig certificeren
10418 alternatieve afvuurhandgreep
10414 alternerend copolymeer *(n)*
10419 alternobarische duizeligheid
15041 alternobarische duizeligheid
10448 altocumulus
10449 altostratus
10451 alumineren
10451 aluminiseren
10450 aluminiumlegeringen *(pl)*
14571 alzijdig gericht licht *(n)*
14570 alzijdig werkend baken *(n)*
14573 alzijdig werkend radiobaken *(n)*
14572 alzijdig werkend radiobaken *(n)*
10456 American Ephemeris
11018 amfibievliegboot
10460 amfibievliegtuig *(n)*
12822 amfibievliegtuig *(n)* met drijvers
10457 aminohars
10458 aminokunststoffen *(pl)*
10459 ammoniak-inspuiting
15862 amortiseurkoord *(n)*
10461 amplitude
10462 AMVER-systeem *(n)*
10464 anametrisch
15827 anderhalfdekker
10468 anemograaf
10470 aneroïde barometer
10471 aneroïde kapsule
10499 anilineformaldehydehars
10500 anisoëlasticiteit
10501 anisoïnertie
10502 anisotroop laminaat *(n)*
10503 anisotropie
10466 ankerkabel
11301 ankerkabel-verspanning
14336 ankerkegel
11300 ankerlier-kabel
14337 ankerpunt *(n)*
14338 ankerspil
16248 anloopwervel
10513 anodisch beitsen
15661 anodische beschrming
10512 anodische laag
10511 anodisch reinigen
10514 anodiseren
10515 anoxie
10516 A-N radio range
10517 antenne
10105 antenne
14754 anti-afweersysteem *(n)*
10520 anti-coagulant *(n)*
10522 anticyclo-genese
10523 anticyclolyse
10524 anticycloon (hoge drukgebied)
10532 anti-oxidant *(n)*
10533 anti-ozonant *(n)*
10544 antipassaat
10535 antirolkabel
10537 anti-statisch agens *(n)*
10542 anti-symmetrische flutter
13077 anti-verblindingsscherm *(n)*
10527 antivries *(n)*
10518 antropometrie
15468 antwoordontvanger
10882 anvliegbakensysteem *(n)*
16393 aperiodiek afnemende uitwijking
12128 aperiodiek toenomende uitwijking
10550 apogeum *(n)*
10551 apogeummotor
10552 apogeum-raketmotor
14461 apolair
13199 apparatuur in geleidingsstation
14891 arctische lucht
10581 areanavigatie
10588 arm(ver)grendelingssysteem *(n)*
13910 arm mengsel *(n)*
10589 aromatische brandstof
10598 artikulatie-index
10608 A-scherm *(n)*
15290 aselekt
15299 aselekte steekproef
10610 asgehalte *(n)*
10288 ASMI
16506 assembleerlaspunten *(pl)*
10745 as-symmetrisch
10621 A-stadium *(n)*
10622 astrohoogte
10625 astronaut
15720 astronaut-deskundige
10633 astronomisch azimuth *(n)*
10628 astronomische breedte
10631 astronomische breedtecirkel
10626 astronomische dag
10627 astronomische evenaar
10629 astronomische lengte
10630 astronomische meridiaan
10632 astropositie
16926 asturbinemotor
14429 as van het tipcirkelvlak
14427 as van konstante bladhoek
10749 as van vrijheid
10752 asverzetting
10638 asymmetrische belasting

Figure 7-3 -- Dutch Index

DE **Abwurferprobung** *(f)*

12208 Abwurferprobung *(f)*
12204 Abwurfhöhe *(f)*
12207 Abwurftank *(m)*
13769 Abwurftank *(m)*
12208 Abwurfversuch *(m)*
10988 Abzapfluft *(f)*
11177 Abzapfluft *(f)* für Kabinendruckbelüftung
14745 Abzug *(m)* bei Folgestichprobenprüfung
12594 Abzugsgriff *(m)* am Gesichtsschutz
16877 Abzugsstange *(f)*
16267 Abzugsstange *(f)*
15752 Abzugsstollen *(m)*
15752 Abzugsstück *(n)*
10752 Achsversetzung *(f)*
14560 Achtel *(n)*
16292 Achtersteven *(m)*
16526 Achtersteven *(m)*
10063 Acrylharze *(n, pl)*
10065 Acrylharze *(n, pl)*
10066 Acrylnitril-Butadien-Styrol-Kopolymerisat *(n)*
10279 A C V
10082 Adapter *(m)*
10083 adaptive Regelung *(f)*
10083 adaptive Steuerung *(f)*
10086 Addukte *(n)*
10087 Addukt-Kautschuke *(m, pl)*
10093 adiabatische Strömung *(f)*
12087 adressenselektives Funkeuersystem *(n)*
10085 adressenselektives Funkeuersystem *(n)*
10100 Advektion *(f)*
10101 Advektionsnebel *(m)*
11328 Aenderung *(f)*
12469 Aequiphasenflächen *(f, pl)*
12470 Aequipotentialfläche *(f)*
12473 Aequivalenzverhältnis *(n)*
10109 Aeroarthrose *(f)*
10110 Aeroballistik *(f)*
10112 Aerobiologie *(f)*
10113 Aerodontalgie *(f)*
10146 Aerodyn *(n)*
10136 aerodynamische Aufheizung *(f)*
10134 aerodynamische Dämpfung *(f)*
10152 aerodynamische Fläche
10142 aerodynamische Fläche *(f)*
10139 aerodynamische Porosität *(f)*
10129 aerodynamischer Ausgleich *(m)*
10133 aerodynamischer Beiwert *(m)*
10138 aerodynamischer Flugkörper *(m)*
10143 aerodynamischer Kondensstreifen *(m)*
10145 aerodynamisches Luftfahrzeug *(n)*
10154 aerodynamisches Profil *(n)*
10141 aerodynamische Steifigkeit *(f)*
10144 aerodynamische Verwindung *(f)*
10130 aerodynamische Wuchtung *(f)*
10147 aeroelastisches Auskippen *(n)*
10148 Aeroelastizität *(f)*
10150 Aeroemphysem *(n)*
10157 aeroisokliner Flügel *(m)*
10158 Aerologation *(f)*
10159 Aerologie *(f)*
10164 aeronautische Karte *(f)*
10175 Aeroneurose *(f)*
10175 Aeroneurosis *(f)*
10176 Aeronomie *(f)*
10178 Aeropause *(f)*
10182 Aerosat-System *(n)*
10183 Aerosinusitis *(f)*
10186 Aerostat *(m)*
10188 Aerothermoelastizität *(f)*
10177 Aerotitis *(f)* media
12514 A ether *(m)*
10191 affine Deformation *(f)*
10685 AGACS
10203 Agone *(f)*
10212 Air Almanac *(n)*
10064 Akrylkautschuke *(m, pl)*
16083 Aktionsradius *(m)*
15275 Aktionsradius *(m)*
10069 Aktivator *(m)*
10070 aktive Dekodierung *(f)*
10071 aktive Lenkung *(f)*
10074 aktive Redundanz *(f)*
10072 aktives Zielsuchen *(n)*
10073 aktive Zielsuchlenkung *(f)*
10068 Aktivkohle *(f)*
10052 akustische Ausstrahlung *(f)*
10051 akustische Dispersion *(f)*
10060 akustische Schwingung *(f)*
16071 akustisches Echolot *(n)*
10668 akustisches Minimum *(n)*
10059 akustisches Spektrum *(n)*
10382 Alarmdienst *(m)*
16971 Alarmstufe *(f)*
10381 Aldural *(n)*
10383 Alfin-Kautschuke *(m, pl)*
10384 Alford-Schleifenantenne *(f)*
10389 Alkydharze *(n, pl)*
10388 Alkyd-Kunststoffe *(m, pl)*
16065 Alleinflugzeit *(f)*
13056 allgemeine Luftfahrt *(f)*
13055 allgemeiner Luftverkehr *(m)*
13057 allgemeine Wetterübersicht *(f)*
10396 Allotropie *(f)*
10403 Allwetterflugzeug *(n)*
10405 Allyeharz *(n)*
10406 Almukantarat *(m)*
10412 Alpha-Eins-Winkel *(m)*
10411 Alphaeisen *(n)*
10409 Alphazellulose *(f)*
11456 als Rettungskabine ausgelegter Führerraum *(m)*
10414 alternierendes Kopolymer *(n)*
10202 Alterung *(f)* Altern *(n)*
10448 Altocumulus *(m)*
10448 Altokumulus *(m)*
10449 Altostratus *(m)*
10451 Aluminieren *(n)*
10450 Aluminiumlegierungen *(f, pl)*
14460 amagnetischer Stahl *(m)*
10942 Amaurosis *(f)* fugax
10456 American Ephemeris *(f)*
10457 Aminharz *(n)*
10458 Aminoplaste *(n, pl)*
10459 Ammoniakeinspritzung *(f)*
11018 Amphibienflugboot *(n)*
10460 Amphibienflugzeug *(n)*
10460 Amphibienluftfahrzeug *(n)*
10461 Amplitude *(f)*
10462 AMVER-System *(n)*
10463 Analemma *(n)*
15197 Analog-Digital-Umsetzung *(f)*
15197 Analog-Digital-Umwandlung *(f)*
12705 Analyse *(f)* mit finiten Elementen
10464 anametrisch
10465 anametrisch abgeleitete Informationen *(f, pl)*
10043 Anbaugeräte *(n, pl)*
10044 Anbaugerätegetriebe *(n)*
12400 Anbordgehen *(n)*
14939 Anbringungsfehler *(m)*
15827 Anderthalbdecker *(m)*
10469 Anemometer *(n)*
13929 anerkannter Prüfer *(m)* für Luftfahrtgerät
15744 Aneroid *(n)*
10470 Aneroidbarometer *(n)*
11260 Anfahrwirbel *(m)*
16248 Anfahrwirbel *(m)*
13579 Anfangsanflug *(m)*
13580 Anfangsanflugbereich *(m)*
13581 Anfangsaufrichtung *(f)*
13583 Anfangsbestand *(m)*
10557 Anflug *(m)*
12111 Anflug-DME *(f)*
10566 Anflugfeuer *(n, pl)*
10569 Anflugfläche *(f)*
10568 Anflugfolge *(f)*
10560 Anflugfreigabe *(f)*
14009 Anflugfunkfeuer *(n)*
10558 Anflughilfen *(f, pl)*
10239 Anflughöhenbegrenzung *(f)*
10563 Anflugkontrolldienst *(m)*
10561 Anflugkontrolle *(f)*
10562 Anflugkontrollradar *(n)*
10562 Anflugkontrollradargerät *(n)*
11761 Anflugkurssektor *(m)*
10565 Anflugleerlaufbetriebszustand *(m)*
14849 Anflug *(m)* mit horizontaler Radarführung
10559 Anflugsektor *(m)*
10564 Anflugtrichter *(m)*
17117 Anflugwinkelanzeigeanlage *(f)*
10474 Anflugwinkelanzeiger *(m)*
10570 Anflugzeitpunkt *(m)*
11015 angeblasene Klappe *(f)*
15443 angelenktes Ausgleichsgewicht *(n)*
13049 angelenktes Hilfsruder *(n)*
13528 angezeigte Druckhöhe *(f)*
13522 angezeigte Eigengeschwindigkeit *(f)*
13522 angezeigte Fahrt *(f)*
13523 angezeigte Flughöhe *(f)*
13526 angezeigte Machzahl *(f)*
13524 angezeigter dynamischer Druck *(m)*
10387 Angleichen *(n)*
16186 Anguss *(m)*
10499 Anilinformaldehydharz *(n)*
10500 Anisoelastizität *(f)*
10501 Anisoträgheit *(f)*
10502 anisotropes Laminat *(n)*
10503 Anisotropie *(f)*
16266 Ankerschiene *(f)*
10466 Ankerseil *(n)*
11300 Ankerseil *(n)*
11300 Ankertau *(n)*
12874 anklappbares Blatt *(n)*
10516 A-N Kursfunkfeuer *(n)*
10505 A N L
10504 Anlassen *(n)*
12176 Anlassen *(n)*
16602 Anlassen *(n)*
17226 Anlassen *(n)* mit Kraftstoffüberschuss im Abgassystem
16247 Anlassergenerator *(m)*
13508 Anlasser *(m)* mit Schnapper
15062 Anlasskraftstoff einspritzen
13390 Anlassüberhitzung *(f)*
11036 Anlasszündspule *(f)*
17159 Anlaufzeit *(f)*
10516 A-N Leitstrahlfunkfeuer *(n)*
13802 Anlenkbolzen *(m)*
10650 anliegende Stosswelle *(f)*
13160 an Masse legen
10033 Annahme *(f)*
10041 Annahmeerprobung *(f)*
14589 Annahmekennlinie *(f)*
14590 Annahmekennlinie *(f)*
10034 Annahmekriterien *(n, pl)*
10035 Annahmeprüfung *(f)*
10040 Annahme-Stichprobenprüfplan *(m)*
10038 Annahmeverfahren *(n)*
10037 Annahmewahrscheinlichkeit *(f)*
15073 Annahmewahrscheinlichkeit *(f)*
10036 Annahmezahl *(f)*
11959 Annahmezahl *(f)*
10031 annehmbare mittlere Lebensdauer *(f)*
10032 annehmbare Qualitätsgrenzlage *(f)*
10514 anodische Oxydation *(f)*
10511 anodische Reinigung *(f)*
15661 anodischer Schutz *(m)*
10513 anodisches Beizen *(n)*
10512 anodische Schicht *(f)*

Figure 7-4 -- German Index

HE ἀεροπέδη (f)

10223 ἀεροπέδη (f)
16133 ἀεροπέδη (f)
10179 ἀεροπλάνον (n)
13658 ἀεροπλανον (n) ἀναχαιτήσεως
12524 ἀεροπλάνον (n) ἰδιωτικῆς ἐπιχειρήσεως
11200 ἀεροπλάνον (n) Κάναρντ
17090 ἀεροπλάνον (n) κατακορύφου ἀπογειώσεως-προσγειώσεως
16803 ἀεροπλάνον (n) μετά ἑλικτικῆς ἕλικος
15975 ἀεροπλάνον (n) μετά σκί
13851 ἀεροπλάνον (n) ξηρᾶς
16546 ἀεροπλάνον (n) τάντεμ
15162 ἀεροπλάνον (n) ὠστικῆς ἕλικος
10246 ἀεροπλανοφόρον (n)
11939 ἀεροπλοῦς (m) τύπου Ντέκκα
13056 ἀεροπλοΐα (f)
15266 ἀεροπλοΐα (f) συγκρίσεως συχνότητος
14111 ἀεροπλοΐα (f) συγκρίσεως συχνότητος
10344 ἀερόπλοιον (n)
10726 ἀεροπορία (f)
10321 ἀεροπορική ἀποστολή (f)
10337 ἀεροπορική διαδρομή (f)
10339 ἀεροπορική ἕλιξ (f)
10342 ἀεροπορική ἐξυπηρέτησις (f)
10221 ἀεροπορική ἐπιχείρησις (f)
10314 ἀεροπορική (f) ἑταιρεία
10729 ἀεροπορική ἰατρική (f)
10161 ἀεροπορική ἰατρική ἐκπόνωσις (f)
10730 ἀεροπορική παθολογία (f)
10727 ἀεροπορική πρόγνωσις (f)
10357 ἀεροπορική ὑποστήριξις (f)
10731 ἀεροπορική ψυχολογία (f)
10238 ἀεροπορικόν ἀτύχημα (n)
10725 ἀεροπορικόν (n) καύσιμον
17195 ἀεροπορικόν μετεωρολογικόν ραντάρ (n)
10256 ἀεροπορικόν συμβάν (n)
10343 ἀεροπορικός ἐξάς (f)
10237 ἀεροσκάφος (n)
10297 ἀεροσκάφος (n)
10297 ἀεροσκάφος (σκάφος) (n)
16522 ἀεροσκάφος (n) ἄνευ οὐρᾶς
14811 ἀεροσκάφος (n) ἄνευ χειριστοῦ
16309 ἀεροσκάφος (n) ΒΑΠ
12671 ἀεροσκάφος (n) διευθύνων ἐπιχειρήσεις μαχητικῶν ἀεροσκαφῶν
10613 ἀεροσκάφος (n) ἐπιβέσεως
10265 ἀεροσκάφος (m) ἑτοιμασμένον μέ βάρος χρησιμοποιήσεως (APS)
14727 ἀεροσκάφος (n) εὑρέσεως διευθύνσεως
10613 ἀεροσκάφος (n) ἐφοδιάσεως
17148 ἀεροσκάφος (n) ΚΑΠ
17145 ἀεροσκάφος (n) Κ/ΒΑΠ
16716 ἀεροσκάφος (n) κλινούσης πτέρυγος
16366 ἀεροσκάφος (n) (κυρινικῆς) κρούσεως
16554 ἀεροσκάφος (n) μέ κλινούσα ἕλικα τάντεμ
16472 ἀεροσκάφος (n) μεταβαλλομένου βέλους
17042 ἀεροσκάφος (n) μεταβαλλομένου βέλους
14298 ἀεροσκάφος (n) μετά μικτοῦ προωθητικοῦ συστήματος
10403 ἀεροσκάφος (m) παντός καιροῦ
16334 ἀεροσκάφος (n) στρατηγικῆς μεταφορᾶς
10303 ἀεροσκληρωτικός χάλυψ (m)
10354 ἀεροσταθμός (m)
10351 ἀεροσταθμός (m) ἐξυπηρετήσεως
13799 ἀεροσταταετός (m)
10186 ἀερόστατον (n)
10818 ἀερόστατον (n)
10821 ἀερόστατον-ἀλεξίπτωτον (n)
10816 ἀερόστατον (n) μετά θυλάκων
14534 ἀερόστατον (n) παρατηρήσεως
11600 ἀερόστατον (n) σταθερᾶς στάθμης
10852 ἀερόστατον (n) φράγματος
10340 ἀεροστεγανοποιημένος (m)
15075 ἀεροστόμιον (n) (πλήρωσις)
10375 ἀεροστροβιλοκινητήρ (m)
16293 ἀεροσυνοδός (m)
14806 ἀερόσφαιρα (f) ἀνεμοβόλ
16085 ἀερόσφαιρα (f) βολίσεως
10152 ἀεροτομή (f)
11388 ἀεροτομή (f) κυκλικοῦ τόξου
10340 ἀεροφράκτης
10327 ἀεροφωτογραφία (f)
14530 ἀεροφωτογραφία (f) ὑπό κλίσιν
13766 ἀεροχείμαρρος (m)
10234 ἀεροψύκτης
13881 ἀζιμούθ (n) ἐξαπολύσεως
10758 ἀζιμούθια ἀπεικόνισις (f)
10764 ἀζιμούθια (f) ὁδήγησις (πληροφόρησις)
10757 ἀζιμούθια σύμμορφος ἀπεικόνισις (f)
10753 ἀζιμούθιον (n)
10429 ἀζιμούθιον (n) ὕψους
10756 ἀζιμούθιος ἰσαπέχαρτης (m)
10762 ἀζιμούθιος κύκλος (m)
10761 ἀζιμούθιος ράβδος (m)
10754 ἀζιμούθιος χάρτης (m)
12401 ἀήρ (m) ἀνάγκης (m)
10988 ἀήρ (m) ἀφαιμάξεως
11704 ἀήρ (m) ψύξεως
15285 ἀθόδυλος (m)
11861 ἀθροιστική κανονική κατανομή (f)
11857 ἀθροιστική συχνότης (f)
11854 ἀθροιστικόν σφάλμα (n)
14017 αθτοματισψηε Ζιελαθφσψηαλτθνγ (f)
16027 αἰθαλομίχλη (f)
12514 αἰθῆρ (m)
10381 Αικλάδ (κρᾶμα)
12660 αἴσθησις (f)
16184 αἰσθησις (f) δί ἐλατηρίου
11650 αἴσθησις (τοῦ) ἐλέγχου (f)
15805 αἰσθητηριακή ἀποστέρησις (f)
15804 αἰσθητήριον (n)
15802 αἰσθητήριον στοιχεῖον (n)
12604 αἴτιον (n) ἀστοχίας
16402 αἰφνιδία θέρμανσις (f)
11230 αἰχμαλωσία (f)
15360 αἰχμή (f) ἀνευρέσεως
12751 αἰώρησις (f)
13628 ἀκαριαία μετάδοσις (f)
12497 ἀκατάστατον σφάλμα (n)
16170 ἀκάτιον (n)
13404 ἄκατος (f)
16809 ἀκολουθοῦν ἀεροσκάφος (n)
10573 ἀκουαπλάνιγκ (n)
16471 ἀκουσία παρέκκλισις (f) (ἐπί τοῦ ἐδάφους)
10058 ἀκουστική διάθλασις (f)
10051 ἀκουστική διασπορά (f)
10053 ἀκουστική διέγερσις (f)
10052 ἀκουστική ἐκπομπή (f)
10054 ἀκουστική κόπωσις (f)
10060 ἀκουστική ταλάντωσις (f)
10057 ἀκουστικόν ὑλικόν (n)
10059 ἀκουστικόν φάσμα (n)
10669 ἀκουστικός ραδιοφάρος (m)
16732 ἀκραία ἀπώλεια (f)
12420 ἀκραία πλάξ (f)
12758 ἀκραία συγκόλλησις (f) δι' ἀναφλέξεως
17269 ἀκραῖον τμῆμα (n) πτέρυγος
16739 ἀκραῖος στρόβιλος (m)
12582 ἄκραι τιμαί (f, pl)
14985 ἀκρίβεια (f)
10046 ἀκρίβεια (f) μέσης τιμῆς
10111 ἀκροβατικά (n, pl)
10062 ἀκροβατική πτῆσις (f)
14505 ἀκροφύσιον (n)
15076 ἀκροφύσιον (n) ἀεροστομίου
11131 ἀκροφύσιον (n) βύσματος
16957 ἀκροφύσιον (n) διπλῆς ροῆς
12533 ἀκροφύσιον (n) ἐξαγωγῆς
12567 ἀκροφύσιον (n) ἐξωτερικῆς ἐκτονώσεως
13694 ἀκροφύσιον (n) ἐσωτερικῆς ἐκτονώσεως
14875 ἀκροφύσιον (n) μετά βύσματος
11289 ἀκροφύσιον (n) μετά βύσματος
15818 ἀκροφύσιον (n) μετ' ἀκτινωτῶν ἐγκοπῶν
13890 ἀκροφύσιον (n) ντη Λαβάλ
12726 ἀκροφύσιον (n) σταθερᾶς διατομῆς
16912 ἀκροφύσιον (n) στροβίλου
14651 ἀκροφύσιον (n) ὑπερκτονώσεως
10065 ἀκρυλικά (n, pl)
10064 ἀκρυλικά ἐλαστικά (n, pl)
10063 ἀκρυλικαί ρητίνες (f, pl)
15879 ἀκτή (f)
15244 ἀκτινική ἀζυγοστάθμητος στρέψις (f) (γυροσκόπιον συντονιζομένου περιστροφεως)
15241 ἀκτινική ραφή (f)
15243 ἀκτινικός ἐπιλογεύς (m)
15245 ἀκτινωτά σύρματα (n, pl)
15237 ἀκτινωτή διάμετρος (f)
15236 ἀκτινωτή καῦσις (f)
15235 ἀκτινωτός (m)
15275 ακτίς (f) ἐνεργείας
16083 ἀκτίς (f) ἐξόδου
17231 ἀκτίς (f) περιστροφῆς τροχοῦ
11842 ἀκτίς (f) πλεύσεως
15615 ἀκτίς (f) στροφείου
16940 ἀκτίς (f) στροφῆς
14740 ἀκτίς (f) τοῦ Πέδερσην
13905 ἀκτίς (f) χείλους προσβολῆς
17184 ἀκύρωσις (f) προσγειώσεως προσγειώσεως
10451 ἄλειμμα (n) μετ' ἀλουμίνιου
12186 ἀλεξιβρόχιον (n)
15279 ἀλεξιβρόχιος λωρίς (f)
14687 ἀλεξίπτωτον (n)
12407 ἀλεξίπτωτον (n) ἀνάγκης
10536 ἀλεξίπτωτον (n) ἀντιπεριδινήσεως
11671 ἀλεξίπτωτον (n) δίευθύνσεως
13209 ἀλεξίπτωτον (n) διευθύνσεως
15480 ἀλεξίπτωτον (n) ἐξολκέως
15358 ἀλεξίπτωτον (n) ἐκτανατάξεως
15480 ἀλεξίπτωτον (n) ἐκτιβραδύνσεως
14686 ἀλεξίπτωτον (n) ἐκτιβραδύνσεως
11941 ἀλεξίπτωτον (n) ἐκτιβραδύνσεως
16200 ἀλεξίπτωτον (n) εὐστάθειας
12196 ἀλεξίπτωτον (n) ἐυστάθειας
15764 ἀλεξίπτωτον (n) καθίσματος
10548 ἀλεξίπτωτον (n) κορυφῆς
15513 ἀλεξίπτωτον (n) μέ κορδέλλας
13314 ἀλεξίπτωτον (n) μέ συναρμολόγησιν περιφερειακόν
16257 ἀλεξίπτωτον μέ σχοινίον προσδέσεως
10981 ἀλεξίπτωτον (n) μετά ἀνοικτού ἐπιπώματος
11069 ἀλεξίπτωτον (n) πεδήσεως
13832 ἀλεξίπτωτον (n) πεδήσεως κατά τήν προσγείωσιν
10567 ἀλεξίπτωτον (n) προσεγγίσεως
14780 ἀλεξίπτωτον (n) προσωπικοῦ
16878 ἀλεξίπτωτον (n) στρατεύματων
16550 ἀλεξίπτωτον (n) τάντεμ
12724 ἀλεξίπτωτον τύπου FIST
12573 ἀλεξίπτωτον (n) φορτίον ἐξαγωγῆς
12941 ἀλεξίπτωτον (n) χειροκινητῆς ἀνεωξεως
12710 ἀλεξίπυρος
16887 ἀληθέν ὕψος (n)
15991 ἀληθῆς ἀπόστασις (f)
16888 ἀληθῆς διόπτευσις (f)
16890 ἀληθῆς μέση τιμή (f) παραγωγικῆς διαδικασίας
16891 ἀληθῆς τάσις (f) ἐφελκυσμοῦ
16885 ἀληθῆς ταχύτης (f) ἀέρος TAS
10427 ἀλκαλουρία (f) ὕψους
10426 ἀλκάλωσις (f) ὕψους

Figure 7-5 -- Greek Index

IT **aeroporto** *(m)*

10330 aeroporto *(m)*
11991 aeroporto *(m)* di partenza
10182 aerosat *(m)*
10297 aeroscocca *(f)*
10183 aerosinusite *(f)*
10184 aerospazio *(m)*
10186 aerostato *(m)*
10188 aerotermoelasticità *(f)*
10379 aerovia *(f)*
15430 affidabilità *(f)*
12580 affidabilità *(f)* estrapolata
14540 affidabilità *(f)* osservata
10618 affidabilità *(f)* valutata
11576 affidamento *(m)*
17316 affinazione *(f)* localizzata a zone
14486 affondata *(f)*
16611 affondata *(f)* fino alla velocità terminale
14873 affossamento *(m)*
12784 agente *(m)* alle operazioni di volo
10537 agente *(m)* antistatico
11758 agente *(m)* di accoppiamento
14345 agente *(m)* di distacco dallo stampo
14722 agente *(m)* di separazione
15416 agente *(m)* rinforzante
11869 agente *(m)* vulcanizzatore
14017 agganciamento *(m)*
14652 aggetto *(m)*
15392 aggiustamento *(m)* di fase
11029 agglomerare
12949 agilità *(f)* di frequenza
10822 agitatore *(m)* di Banbury
16010 agitazione *(f)* a sbattimento
17260 ala *(f)*
13563 ala *(f)* a apertura infinita
11333 ala *(f)* a canale
11983 ala *(f)* a delta
12143 ala *(f)* a doppio delta
15289 ala *(f)* a effetto dinamico
10595 ala *(f)* a freccia
13212 ala *(f)* a gabbiano (o ad M)
14381 ala *(f)* a M
10667 ala *(f)* a portanza aumentata a getti
12033 ala *(f)* a rombo
15967 ala *(f)* asimmetrica
17286 ala *(f)* a W
11790 ala *(f)* crescente
12481 ala *(f)* di monoplano equivalente
10157 ala *(f)* isoclina
11777 ala *(f)* piegata a gomito
16564 ala *(f)* rastremata
11416 ala *(f)* squadrata alle estremità
16412 ala *(f)* supercritica
12866 ala *(f)* volante
11778 albero *(m)* a manovelle
15612 albero *(m)* del rotore
11415 albero *(m)* di salita
10427 alcalosi *(f)* dell'urina per la quota
10426 alcalosi *(f)* per la quota
10381 alclad *(m)*
10232 al controllo aereo (controllore)
14927 alcool *(m)* di polivinile
16813 aletta *(f)* al bordo di uscita
12875 aletta *(f)* a ripiegamento
17257 aletta *(f)* a 'T' per il vento
16500 aletta *(f)* compensatrice
10798 aletta *(f)* compensatrice
13049 aletta *(f)* compensatrice automatica
11668 aletta *(f)* compensatrice controllata
16185 aletta *(f)* compensatrice elastica
16874 aletta *(f)* correttrice di assetto
16516 aletta *(f)* di coda
13772 aletta *(f)* di controllo
14671 aletta *(f)* di estremità del sacco
11707 aletta *(f)* di refrigerazione
12662 aletta *(f)* direttrice
16831 aletta *(f)* di transizione
13424 aletta *(f)* idrodinamica
13067 alette *(f, pl)*
11768 alette *(f, pl)* della cappottatura
16016 alettone *(m)* a bordo a fessura
16018 alettone *(m)* a fessura
16167 alettone *(m)* a fessura e diruttore
14874 alettone *(m)* a spina
17000 alettone *(m)* della superficie superiore
16166 alettone *(m)* diruttore
12564 alettone *(m)* esterno
12824 alettone *(m)* flottante
12661 alettone *(m)* guida
12749 alettone *(m)* ipersostentatore
15481 alettone *(m)* retrattile
15966 alettone *(m)* ritorto
10210 alettoni *(m, pl)*
10545 alettoni *(m, pl)* anti-imbardata
12043 alettoni *(m, pl)* differenziali
12965 alettoni *(m, pl)* Frise
13090 aliante *(m)*
13448 aliante *(m)* ipersonico
14612 aliante *(m)* orbitale
16783 aliante *(m)* rimorchiato
16805 alisei *(m, pl)*
13026 allarme *(m)* del pallonetto
10863 allenatore *(m)* basico di volo strumentale
16329 alleviatore *(m)* di sollecitazioni
10387 allineamento *(m)*
13226 allineamento *(m)* con girobussola
13581 allineamento *(m)* iniziale alla verticale (giroscopio)
12487 allineamento *(m)* sulla verticale (giroscopio)
10396 allotropia *(f)*
10451 alluminatura *(f)*
10612 allungamento *(m)*
10952 allungamento *(m)* della paletta
13971 allungamento *(m)* delle funi di sospensione
12293 allungamento *(m)* effettivo
10406 'almucantar'
13319 alta altitudine *(f)*
13316 alta frequenza *(f)*
16172 alterazione *(f)* segnali
13301 altezza *(f)*
10424 altezza *(f)* (astronomica)
15028 altezza *(f)* barometrica
11209 altezza *(f)* caratteristica della calotta
17055 altezza *(f)* cinetica
11804 altezza *(f)* critica
12235 altezza *(f)* del canale radio troposferico
11279 altezza *(f)* della base delle nubi con una copertura del cielo di 4/8
16015 altezza *(f)* della fessura
11436 altezza *(f)* delle nubi
17180 altezza *(f)* dell'onda
13107 altezza *(f)* dello spicchio
11944 altezza *(f)* di decisione
12466 altezza *(f)* di equilibrio
12205 altezza *(f)* di lancio
13397 altezza *(f)* di libramento
15666 altezza *(f)* di sicurezza
15552 altezza *(f)* di sollevamento
14691 altezza *(f)* di spiegamento del paracadute
13106 altezza *(f)* in estensione dello spicchio
15734 altezza *(f)* limite di separazione verticale dagli ostacoli
14541 altezza *(f)* limite minimo di separazione verticale dagli ostacoli
16175 altezza *(f)* locale
14238 altezza *(f)* metacentrica
14996 altezza *(f)* predominante (ricognizione aerea)
17103 altezza *(f)* virtuale
10422 altimetria *(f)*
10420 altimetro *(m)*
15148 altimetro *(m)* a impulsi
10007 altimetro *(m)* assoluto
15009 altimetro *(m)* barometrico
10833 altimetro *(m)* barometrico
11173 altimetro *(m)* di cabina
16283 altimetro *(m)* di precisione
15355 altimetro *(m)* registratore
16071 altimetro *(m)* sonico
17095 altissima frequenza *(f)*
10423 altitudine *(f)*
10008 altitudine *(f)* assoluta
10622 altitudine *(f)* astronomica
15010 altitudine *(f)* barometrica
11189 altitudine *(f)* corretta
11795 altitudine *(f)* critica
10118 altitudine *(f)* dell'aerodromo
12692 altitudine *(f)* di avvicinamento finale
11174 altitudine *(f)* di cabina
11840 altitudine *(f)* di crociera
11988 altitudine *(f)* di densità
15010 altitudine *(f)* di pressione
13528 altitudine *(f)* di pressione indicata
16830 altitudine *(f)* di transizione
14282 altitudine *(f)* minima di sicurezza
14277 altitudine *(f)* minima di volo
15212 altitudine *(f)* radar
15934 altitudine *(f)* simulata
16887 altitudine *(f)* vera
10448 altocumulo *(m)*
13329 alto polimero *(m)*
10449 altostrato *(m)*
15992 alula *(f)*
12448 ambiente *(m)*
15859 ambiente *(m)* a manica di camicia
11660 ambiente *(m)* controllato
12787 ambiente *(m)* di volo
10455 ambiguità *(f)*
12122 ammaraggio *(m)* forzato
12120 ammarare
12121 ammarare con velivolo terrestre
15870 ammortizzatore *(m)* (oleo)
16045 ammortizzatore *(m)* di vibrazione
11902 ammortizzatore *(m)* di vibrazione
14561 ammortizzatore *(m)* oleopneumatico a telescopio
11134 ammortizzatori *(m, pl)* di fermo *(pl)*
14357 a molti motori
10961 amortizzatore *(m)* della pala
10461 ampiezza *(f)* (astronomica)
10463 analemma *(m)*
12705 analisi *(f)* ad elementi finiti
16350 analisi *(f)* delle sollecitazioni
11620 analisi *(f)* per contatto
12045 analisi *(f)* termica differenziale
10464 anametrico
16916 anello *(m)* all'estremità delle palette della turbina
10900 anello *(m)* benzenico
11143 anello *(m)* bruciatore
13109 anello *(m)* dello spicchio
13789 anello *(m)* di attacco
16003 anello *(m)* di centrifugazione
11562 anello *(m)* di concentrazione
12529 anello *(m)* di deviazione dello scarico
14513 anello *(m)* di palette direttriche
13780 anello *(m)* di ritegno della guarnizione
13367 anello *(m)* di sospensione
14001 anello *(m)* di sospensione
15548 anello *(m)* di strappamento
15749 anello *(m)* di tenuta
13036 anello *(m)* di tenuta del gas
17131 anello *(m)* di vortici
15897 anello *(m)* esterno del disco
10970 anello *(m)* esterno delle palette
16913 anello *(m)* esterno rotante di turbina
16914 anello *(m)* esterno statico di turbina
16915 anello *(m)* esterno statico di turbina

Figure 7-6 -- Italian Index

PO **aileron *(m)* retráctil**

15481 aileron *(m)* retráctil
10210 ailerons *(m, pl)*
10545 ailerons *(m, pl)* anti-guinada
12043 ailerons *(m, pl)* diferenciais
12965 ailerons *(m, pl)* Frise
12661 aileron *(m)* simulador de esforço
14874 aileron *(m)* tampão
16166 aileron *(m)* tipo spoiler
16167 aileron *(m)* tipo spoiler fendido
10205 ajuda *(f)* à navegação
14754 ajuda *(f)* à penetração
15880 ajuda *(f)* navigacional de curto alcance
10558 ajudas *(f, pl)* à aproximação
13827 ajudas *(f, pl)* para aterragem
13026 alarme *(m)* de saco de gás
13101 alavanca *(f)* de controlo de avanço
13917 alavanca *(f)* de libertação dos cordões de prisão das pernas
13174 alavanca *(f)* de segurança no solo
14825 alavanca *(f)* do passo
10426 alcalose *(f)* de altitude
10427 alcalúria *(f)* de altitude
15303 alcance *(m)*
13608 alcance *(m)* de entrada (giroscópio; acelerometro)
12264 alcance *(m)* dinâmico (giroscópio; ácelerómetro)
15991 alcance *(m)* inclinado
14340 alcance *(m)* mais económico
14184 alcance *(m)* máximo eficaz
14595 alcance *(m)* operational
12485 alcance *(m)* teórico em atmosfera calma
15659 alcance *(m)* visual numa pista
10381 alclade *(m)*
14927 alcool *(m)* polivinílico
15290 aleatório
15296 aleatorização *(f)*
15670 alfinete *(m)* de segurança
11707 alheta *(f)* de arrefecimento
13502 alheta *(f)* de impulsor
16753 alheta-guia *(f)* toroidal
10387 alinhamento *(m)*
12487 alinhamento *(m)* (giroscópio)
13581 alinhamento *(m)* inicial (giroscópio)
13226 alinhamento *(m)* por giro-bússola
16361 aliviação *(f)* de tensões
13988 alívio *(m)* das cargas
16362 alívio *(m)* de tensões
11550 alívio *(m)* do compressor
16110 alma *(f)* da longarina
11877 almofada *(f)*
10773 almofada *(f)* das costas
10278 almofada *(f)* de ar
14070 almofada *(f)* lombar
10406 'almucantar'
10407 alocrom
10408 alodine
10612 alongamento *(m)*
11667 alongamento *(m)* controlado
10952 alongamento *(m)* da lâmina
12293 alongamento *(m)* efectivo
10396 alotropia *(f)*
10388 alquido-plásticos *(m, pl)*
13316 alta frequência *(f)*
14148 alternativa *(f)* manual ('override')
10422 altimetria *(f)*
10420 altímetro *(m)*
10007 altímetro *(m)* absoluto
10833 altímetro *(m)* barométrico
15009 altímetro *(m)* barométrico
11173 altímetro *(m)* de cabine (pressurizada)
15148 altímetro *(m)* de impulsos
15355 altímetro *(m)* registador
16071 altímetro *(m)* sonoro
10423 altitude *(f)*
10008 altitude *(f)* absoluta
10424 altitude *(f)* astronómica
10622 altitude *(f)* astronómica
15010 altitude *(f)* barométrica
11189 altitude *(f)* calibrada
11795 altitude *(f)* crítica
11804 altitude *(f)* crítica
12692 altitude *(f)* de aproximação final
11174 altitude *(f)* de cabine
11840 altitude *(f)* de cruzeiro
11944 altitude *(f)* de decisão
11988 altitude *(f)* de densidade
12482 altitude *(f)* de oxigénio equivalente
15010 altitude *(f)* de pressão
13528 altitude *(f)* de pressão indicada
15212 altitude *(f)* de radar
15314 altitude *(f)* de restablecimento à potência nominal
15666 altitude *(f)* de segurança
16830 altitude *(f)* de transição
13319 altitude *(f)* elevada
13523 altitude *(f)* indicada
14541 altitude *(f)* limite de franqueamento de obstáculos
14282 altitude *(f)* mínima de segurança
14277 altitude *(f)* mínima de vôo
15314 altitude *(f)* nominal
15934 altitude *(f)* simulada
16887 altitude *(f)* verdadeira
10448 altocúmulo *(m)*
10449 altoestrato *(m)*
13301 altura *(f)*
11209 altura *(f)* característica da calote
12235 altura *(f)* da camada reflectora troposférica
13106 altura *(f)* da extensão do gomo
16015 altura *(f)* da fenda
11436 altura *(f)* das núvens
14691 altura *(f)* de desdobramento dum pára-quedas
12466 altura *(f)* de equilíbrio
12204 altura *(f)* de largada
12205 altura *(f)* de largada
17180 altura *(f)* de onda
13397 altura *(f)* de pairar
15028 altura *(f)* de pressão
15552 altura *(f)* de subida
17055 altura *(f)* dinâmica
13107 altura *(f)* do gomo
15734 altura *(f)* limite de franqueamento de obstáculos
10239 altura *(f)* limite na aproximação de aeronaves por instrumentos
14238 altura *(f)* metacéntrica
14996 altura *(f)* predominante (reconhecimento aéreo)
17103 altura *(f)* virtual
10451 aluminizar *(m)*
16569 alvo *(m)*
10107 alvo *(m)* aéreo
15231 alvo *(m)* radar
16784 alvo *(m)* rebocado
12122 amaragem *(f)* forçada
12120 amarar (VAAs)
12121 amarar em emergência
11098 amarra *(f)*
15522 amarração *(f)* (pára-quedas)
16517 amarração *(f)* de cauda
11299 amarração *(f)* de ponto central
10264 amarração *(f)* de uma aeronave
11995 amarra *(f)* de desdobramento
12448 ambiente *(m)*
15859 ambiente *(m)* de trabalho normal
12787 ambiente *(m)* de vôo
10455 ambiguidade *(f)*
10458 amino-plásticos *(m, pl)*
10457 aminoresina *(f)*
10961 amortecedor *(m)* da pá
13813 amortecedor *(m)* de atraso
15860 amortecedor *(m)* de choque
16329 amortecedor *(m)* de deformações
15857 amortecedor *(m)* de shimmy
16045 amortecedor *(m)* de vibraçãoes
11902 amortecedor *(m)* de vibraçãoes
15866 amortecedor *(m)* elástico
14561 amortecedor *(m)* oleopneumático telescópico
11901 amortecer
11903 amortecimento *(m)*
10134 amortecimento *(m)* aerodinâmico
11798 amortecimento *(m)* crítico
11743 amortecimento *(m)* de Coulomb
17099 amortecimento *(m)* de vibraçoes
16373 amortecimento *(m)* estrutural
16556 amortecimento *(m)* tangencial
16130 amostra *(f)*
15679 amostra *(f)*
15299 amostra *(f)* aleatória
15930 amostra *(m)* aleatória simples
10913 amostra *(f)* con erro sistemático
16335 amostra *(f)* estratificada
15687 amostragem *(f)*
11130 amostragem *(f)* a granel
10914 amostragem *(f)* con erro sistemático
10039 amostragem *(f)* de aceitação
12149 amostragem *(f)* dupla
13062 amostragem *(f)* geométrica
14377 amostragem *(f)* por encaixe
14402 amostragem *(f)* por encaixe
15813 amostragem *(f)* sequencial
16494 amostragem *(f)* sistemática
15451 amostra *(m)* representativa
16493 amostra *(f)* sistemática
10461 amplitude *(f)*
12452 amplitude *(f)* ambiental
15306 amplitude *(f)* de carga
15307 amplitude *(f)* de tensão
16359 amplitude *(f)* de tensão
15084 amplitude *(f)* do processo
14213 amplitude *(f)* média
10997 ampola estrutural *(f)*
10463 analema *(m)*
16350 análise *(f)* de tensões
12705 análise *(f)* por elementos finitos
12045 análise *(f)* térmica diferencial
10464 anamétrico
11557 andar *(m)* de compressor
11475 anel *(m)* colector
12527 anel *(m)* colector de escape
15897 anel *(m)* de blindagem
14001 anel *(m)* de carga
11562 anel *(m)* de concentração
12336 anel *(m)* de ejector
12529 anel *(m)* deflector de escape
16179 anel *(m)* de injectores
12153 anel *(m)* de injectores duplo
10358 anel *(m)* de sangria de ar
15717 anel *(m)* de Schuler
15749 anel *(m)* de vedação
17131 anel *(m)* de vórtices
14513 anel-guia *(m)* de tubeira
14445 anel NOL *(m)*
11143 anel *(m)* queimador
16914 anel *(m)* vedante da turbina
10468 anemógrafo *(m)*
10469 anemómetro *(m)*
13391 anemómetro *(m)* de fio quente
13859 anemómetro *(m)* laser
10317 anemómetro *(m)* portátil
11018 anfíbio *(m)* barco
10412 ângulo *(m)* alfa-um
13112 ângulo *(m)* ao vértice do gomo
10759 ângulo *(m)* azimutal
10953 ângulo *(m)* azimutal da pá
16680 ângulo *(m)* da alavanca de aceleração
13312 ângulo *(m)* da hélice

Figure 7-7 -- Portuguese Index

TU aktüatör disk teorisi

10079 aktüatör disk teorisi
11754 akuple motor güç birimi
10051 akustik dağılma
10052 akustik emisyon
10058 akustik kırılma
10057 akustik malzeme
16081 akustik şamandıra
10059 akustik spektrum
10060 akustik titresim
10053 akustik uyarma
10056 akustik yalıtım
10054 akustik yorulma
10055 akustik yorulma deneyi
13346 alıkoyma
12418 alından yanma
13283 alın direnci
16944 alaca karanlık
13848 alanın inis sahası
10585 alan emişi
12670 alan füze kontrolu
10581 alan seyrüseferi
16608 alan trafiğinin düzenlenmesi
12669 alan verileri
10382 alarm servisi
10400 alasım
10401 alasımlı celik
14059 alçak ısı direnci
14058 alçak basınç laminer malzemesi
14047 alçak bulutlar
14055 alçak ergime noktalı alaşımlar
16398 alçak hararetli işleme
11486 alçak uçuş gürültüsü
14365 alçak uçuş gürültüsü
13636 aletli iniş sistemi (ILS)
13088 aletli iniş sistemi için iniş yolu düzenekleri
13639 aletli pist
13633 aletli pist
13638 aletli seyrüsefer
13634 aletli uçuş
13635 aletli uçuş kaideleri
13637 aletli uçuşu gerektiren hava şartları
13631 aletli yaklaşma
12746 alev borusu
12738 alev cephesi
11494 alev dalgası
12744 alev dengeleyicisi
12742 aleve dayanıklı
12737 alev gizleyici
12757 alevin tepmesi
12736 alev kesici
12759 alevlenme noktası
12760 alevlenmeye karşı dayanıklı
12736 alev perdesi
12743 alev püskürtme
12739 alev sertleştirmesi
12736 alev siperi
13077 alev siperi
12740 alev tutucu
12745 alev tuzağı
12738 alev yüzü
10411 alfa demiri
10409 alfa selülozu
10410 alfa tipi menteşe
10412 alfa 1 acısı
10383 alfin lastikleri
10384 Alfordlup
10404 alil plastikleri
10405 alil reçineleri
16805 alize rüzgârları
10388 alkid plâstikleri
10389 alkid reçineleri
10396 allotropi
10406 almukantar
10408 alodin
10408 alokrom
10407 alokrom
15959 altı elemanlı balans
15959 altı kollu terazi
10416 alternatif gerilme
10415 alternatif yük
16386 alt grup
10420 altimetre
10421 altimetre ayarı
13523 altimetrede okunan yükseklik
15961 alt mahmuz
10448 altokümülüs
10449 altostratüs
16972 alttan gözüken kordon kaynagi boncuğu
16397 alt yüzey
10450 alüminyum alasımları
10451 alüminyum kaplama
10451 alüminyumlama
10407 alumunyumun krom kaplanması
15650 ambale süresi
15652 ambale süresi (cayroda)
10456 Amerika efemerisi
10456 Amerikan astronomi takvimi
11018 amfibik bot
10460 amfibik uçak
10458 amino plâstikleri
10457 amin reçinesi
10459 amonyak enjeksiyonu
11902 amortisör
15860 amortisör
15862 amortisör kordonu
15870 amortisörlü dikme
10461 amplitüd
10462 AMVER sistemi
16402 anı ısı yükselmesi
13628 anında okuma
14117 ana bağlama teli
14116 ana boy kirişi
14113 ana devre
14122 ana dikiş
14115 ana dişli kutusu
12287 anafor
16474 anafor cihazı
16816 anafor engellemesi
12291 anafor hızı
16473 anafor hücresi
12288 anafor katsayıları
17138 anaforluluk
16476 anafor paleti
12292 anafor viskozitesi
12290 anafor yayılma katsayıları
13035 ana gaz hortumu
15069 ana gerilmeler
14119 ana gövde
15060 ana gözetleme radarı
16892 ana hava yolu
13702 anahtar
14171 ana istasyon
15066 ana ivme ekseni
10864 ana kaldırma kuvveti
16767 ana kolan takımı
15964 ana kolan takımı
15465 analiz cihazı
14116 ana lonjiron
14114 ana manş tulumu
10464 anametrik
10465 anametrik hesaplama
14112 ana meydan
11778 ana mil
11243 ana noktalara yönelme
15068 ana önleme gücü
14118 ana paraşüt
15058 ana radar
14120 ana radyal dikme
10866 ana referans atmosferi
14121 ana rotor
13787 ana uzunluk (paraşütte)
14170 ana ve tali rot grubu
15059 ana yapı
10468 anemograf
10469 anemometre
10317 anemometre
10470 aneroid barometre
10471 aneroid kapsül
13489 anî hava desteği
10499 anilin formaldehit reçinesi
15109 ani nitrik oksit
16438 ani yükselme
10870 anma agırlıgı
14446 anma alanı
14447 anma çapı
14448 anma değeri
10867 anma ölçüsü
15314 anma yüksekliği
10512 anodik film
15661 anodik koplama (korunma)
10511 anodik temizleme
10513 anodik temizleme
12620 anormal ek kaldırma gücü
10514 anotlama
10516 A-N radyo renç
10517 anten
10105 anten
16485 anten genişliğini artıran cihaz
15276 anten kaportası
15276 anten kubbesi
10527 antifiriz
10528 antigravite
10532 antioksiden
10533 antiozonant
10534 antiradyasyon roket
13318 antisiklon
10523 antisiklonik hareketin zayıflaması
10522 antisiklonik sirkülasyonun başlangıcı
10537 antistatik madde
10518 antropometri
10519 antropometrik manken
10546 aperiyodik pusula
10571 apron
10572 apron aydınlatma ısığı
12603 arıza
13629 arıza anı
12607 arıza dağılımı
12600 arıza emniyetli
12601 arıza emniyetli yapı
12602 arıza emniyet sistemi
12608 arıza etkisi
12609 arıza frekansı
12610 arıza frekans dağılımı
11932 arıza giderilmesi
11933 arıza giderme safhası
12159 arıza giderme zamanı
12605 arıza kriteri
16616 arızalı arazide alçak uçuş rota radarı
15680 arızalı numune oranı
14216 arızalar arasında ortalama zaman (MTBF)
12578 arızalar arası ortalama zamanın tayini
12611 arıza nedeni
11571 arıza olasılık koşulu
12613 arıza olasılık yoğunluğu
12614 arıza olasilik dağılımı
12616 arıza oranı
12617 arıza oranı ivme faktörü
12615 arıza payı
16724 arızasız çalışma süresi
16724 arızasız geçen süre
12604 arıza sebebi
16883 arıza tesbiti
12612 arızayı belirten etki
12606 arıza yoğunluğu
12901 arıza yüzdesi
13674 ara ısıtıcı
15415 ara ısıtıcı
13681 ara boylama kirişi
17053 araç

Figure 7-8 -- Turkish Index

ES aislante *(m)* de golpes

Figure 7-9 -- Spanish Index

RU **активное самонаведение** *(n)*

10073 активное самонаведение *(n)*
10072 активное самонаведение *(n)*
11313 акт *(m)* соответствия
10058 акустическая рефракция *(f)*
10054 акустическая усталость *(f)*
10052 акустическая эмиссия *(f)*
10059 акустический спектр *(m)*
10053 акустическое возбуждение *(n)*
10060 акустическое колебание *(n)*
10051 акустическое рассеивание *(n)*
13611 алгебраическая разница *(f)* между верхним и нижним значениями диапазона ввода
14644 алгебраическая разница *(f)* между верхним и нижним значениями диапайона вывода
10451 алитирование *(n)*
10388 алкидные пластмассы *(pl)*
10389 алкидные смолы *(pl)*
10405 аллиловая смола *(f)*
10404 аллиловые пластмассы *(pl)*
10396 аллотропия *(f)*
10408 алодин *(m)*
10407 алокром *(m)*
10381 альклэд *(m)*
10406 альмукантарат *(m)*
10411 альфа-железо *(n)*
10409 альфа-целлюлоза *(f)*
10383 альфин-каучуки *(pl)*
10450 алюминиевые сплавы *(pl)*
10451 алюминирование *(n)*
10456 американская эфемерида *(f)*
10458 аминные пластмассы *(pl)*
10457 аминосмола *(f)*
15860 амортизатор *(m)*
11134 амортизаторы *(pl)*
15870 амортизационная стойка *(f)*
15862 амортизационный шнур *(m)*
15360 амортизирующая игла *(f)*
11877 амортизирующая камера *(f)*
16045 амортизирующая прокладка *(f)*
15866 амортизирующая установка *(f)*
15866 амортизирующее устройство *(n)*
10461 амплитуда *(f)*
10463 аналемма *(f)*
12598 анализ *(m)* влияния нескольких факторов
16350 анализ *(m)* напряжений
10464 анамемрццескцц
10465 анаметрическое определение *(n)* данных
13247 ангар *(m)*
15651 ангар *(m)* для гонки двигателей
15334 ангар *(m)* для дежурных самолетов
10468 анемограф *(m)*
10469 анемометр *(m)*
10317 анемометр *(m)*
13859 анемометр *(m)* на лазерах
10471 анероидная коробка *(f)*
10470 анероидный барометр *(m)*
10501 анизоинерция *(f)*
10503 анизотропия *(f)*
10502 анизотропный слоистый пластик *(m)*
10500 анизоэластичность *(f)*
10499 анилиноформальдегидная смола *(f)*
14393 АНО *(abbr)*
10514 анодирование *(n)*
10511 анодная очистка *(f)*
10512 анодная пленка *(f)*
10513 анодное травление *(n)*
10515 аноксия *(f)*
10517 антенна *(f)*
10105 антенна *(f)*
11256 антенна *(f)* Кассегрейна
12727 антенна *(f)* с неподвижной рамкой
13748 антенная система *(f)* типа 'янус'
10528 антигравитация *(f)*
10520 антикоагулянт *(m)*
17313 антикоррозионная грунтовка *(f)* с большим содержанием цинка
13465 антиобледенитель *(m)*
10533 антиозонант *(m)*
10532 антиокислитель *(m)*
10532 антиоксидант *(m)*
10544 антипассаты *(pl)*
10542 антисимметричный флаттер *(m)*
10527 антифриз *(m)*
10522 антициклогенез *(m)*
10523 антициклолиз *(m)*
10524 антициклон *(m)*
13318 антициклон *(m)*
10518 антропометрия *(f)*
10519 антропоморфный манекен *(m)*
14611 апельсинная корка *(f)*
10546 апериодический компас *(m)*
10550 апогей *(m)*
10551 апогейная импульсная система *(f)*
13157 аппарат *(m)* на воздушной подуш
10279 аппарат *(m)* на воздушной подушке
10287 аппаратура *(f)* для налбюдения поверхности аэродрома
13199 аппаратура *(f)* наземной станции наведения
14397 аппендикс *(m)*
11758 аппретура *(f)*
16360 арактеристика *(f)* цикла напряжений
10586 арифметическое среднее *(n)*
10589 ароматическое топливо *(n)*
11184 аррестирующее устройство *(n)*
10638 асимметрическая нагрузка *(f)*
15965 асимметричное распределение *(n)*
10637 асимметричный флаттер *(m)*
15968 асимметрия *(f)*
16393 асимптотически затухающее возмущение
13869 асимптотически нарастающее боковое движение *(n)*
14022 асимптотически нарастающее продольное движение *(n)*
10607 аскогиро *(n)*
10622 астровысота *(f)*
11280 астроинерциальное наведение *(n)*
16285 астроинерциальное наведение *(n)*
15986 астрокомпас *(m)*
10623 астрокомпас *(m)*
10607 астрокомпас-гироскоп *(m)*
10624 астрокупол *(m)*
11281 астронавигация *(f)*
10424 астрономическая высота *(f)*
10629 астрономическая долгота *(f)*
10631 астрономическая параллель *(f)*
10628 астрономическая широта *(f)*
10626 астрономические сутки *(pl)*
10633 астрономический азимут *(m)*
10630 астрономический меридиан *(m)*
16138 астрономический треугольник *(m)*
10627 астрономический экватор *(m)*
10632 астрономическое положение *(n)*
10635 астрономия *(f)*
10636 астроориентатор *(m)*
10636 астропеленгатор *(m)*
10639 атактический *(adj)*
10022 ателектаз *(m)* вызванный ускорением
10641 атмосфера *(f)*
16234 атмосфера *(f)* со стандартным градиентом модуля преломления
10643 атмосферная рефракция *(f)*
10644 атмосферная турбулентность *(f)*
10642 атмосферное давление *(n)*
15256 атмосферный волновод *(m)*
15256 атмосферный волноприводящий слой *(m)*
10645 атомноводородная сварка *(f)*
10646 атомное время *(n)*
10664 аудиометр *(m)* шумомер *(m)*
10674 аустенит *(m)*
10676 аустенитизация *(f)*
10675 аустенитная сталь *(f)*
10671 аусформинг *(m)*
10683 аутокинетическая иллюзия *(f)*
10684 аутокинетическая иллюзия *(f)*
10549 афилактическая проекция *(f)*
10191 аффинная деформация *(f)*
10047 ацетиленовая сажа *(f)*
14658 ацетилено-кислородная сварка *(f)*
10109 аэроартроз *(m)*
10110 аэробаллистика *(f)*
10112 аэробиология *(f)*
10190 аэробуксировочный полет *(m)*
10146 аэродин *(m)*
13449 аэродинамика *(f)* гиперзвуковых скоростей
10130 аэродинамическая балансировка *(f)*
10129 аэродинамическая балансировка *(f)*
10141 аэродинамическая жесткость *(f)*
10129 аэродинамическая компенсация *(f)*
10130 аэродинамическая компенсация *(f)*
10144 аэродинамическая крутка *(f)*
14939 аэродинамическая ошибка *(f)*
12662 аэродинамическая перегородка *(f)*
10142 аэродинамическая поверхность *(f)*
10152 аэродинамическая поверхность *(f)*
12259 аэродинамическая подъемная сила *(f)*
10138 аэродинамическая ракета *(f)*
10135 аэродинамическая сила *(f)*
11651 аэродинамическая сила *(f)* действующая на поверхность управления
17258 аэродинамическая труба *(f)*
13221 аэродинамическая труба *(f)* для изучения влияний порывов ветра
12925 аэродинамическая труба *(f)* для испытаний свободнолетающих моделей
12934 аэродинамическая труба *(f)* для исследований свободноштопорящих моделей
11424 аэродинамическая труба *(f)* замкнутого типа
11012 аэродинамическая труба *(f)* кратковременного действия
14068 аэродинамическая труба *(f)* кратковременного действия типп Людвига
14050 аэродинамическая труба *(f)* малой плотности
12517 аэродинамическая труба *(f)* незавихренного потока типа Эванса
11632 аэродинамическая труба *(f)* непрерывного действия
13689 аэродинамическая труба *(f)* периодического действия
12067 аэродинамическая труба *(f)* прямого действия
13290 аэродинамическая труба *(f)* работающая на нагретом воздухе
11533 аэродинамическая труба *(f)* работающая на сжатом воздухе
11429 аэродинамическая труба *(f)* с закрытой рабочей частью
15490 аэродинамическая труба *(f)* с обратным каналом
15488 аэродинамическая труба *(f)* с обратным каналом
16401 аэродинамическая труба *(f)* с отсасыванием
13213 аэродинамическая труба *(f)* с пушкой выстреливающей модель навстречу потоку

Figure 7-10 -- Russian Index

7.4 ACRONYMS AND ABBREVIATIONS

The Acronyms and Abbreviations section has a two-column format. The alphabetically sorted acronym or abbreviation is followed by its meaning. In the event that the same character string has more than one definition, each is separated by a semicolon. The section includes the more common acronyms and abbreviations used in aeronautics in addition to those used in the Defintion and Translation Section of the dictionary. A sample page is shown in Figure 7-11.

8. EDITORIAL REVISION

With the first set of page proofs in hand, the Committee, in consultation with its technical editors and translators, had its first opportunity to look at the dictionary as it was to be published, that is, in the format that combined the English definitions with the respective translations. It was apparent that there was a number of anomalies and errors in the definitions and translations. It was also apparent that the dictionary needed a single unifying editorial hand to control editorial quality, consistency, and accuracy.

Thus, in November 1977, the Sub-Committee decided to contract with two very competent technical editors and translators in London, Miss K. Mews and Miss E. C. Pike, who would be responsible for reviewing the entire dictionary and integrating their amendments with changes suggestd by contributors.

At that time it was estimated that the task would not take more 2 or 3 months, and publication in the late spring of 1978 was still anticipated.

In March 1978 the contractors transmitted to AGARD a detailed analysis of the errors, omissions, and inconsistencies they had found. Problems were classified under a variety of headings ranging from simple typing errors to gross defects in the translation of terms. It was estimated that as many as half the terms would have one or more corrections.

The contractors delivered the opinion that "the general impression is that there has been no overall coordination of the terms within any of the countries and certainly, from the variety of meanings given among the various languages for any one term, it would be clear to anyone consulting the dictionary at its present stage that the terms had not been checked or coordinated to ensure that each language is expressing the same meaning." The contractors added that "In view of the number of fields covered it is understandable to have had several

ACT	Active Control Technology; Activation; Automatic Checkout Techniques
ACTF	Altitude Control Test Facility
ACU	Acceleration Control Unit; Air Conditioning Unit
ACV	Air Cushion Vehicle
ACW	Air Control and Warning System; Aircraft Control and Warning
AC&W	Aircraft Control and Warning
ACWS	Aircraft Control & Warning System
AD	Aerodrome; Air Defence
A/D	Analog(ue) to Digital; Arm/Destruct
ADA	Air Defense Area
ADAC	Automated Direct Analog(ue) Computer
ADAM	Air Deflection and Modification
ADAR	Advanced Design Array Radar
ADA Systems	Action Data Automation Systems
ADC	Airborne Digital Computer; Automatic Digit Control; Air Data Computer; Aerodrome Control
ADCC	Air Defense Control Center
ADF	Automatic Direction Finder; Automatic Direction Finding (Equipment)
ADI	Attitude Director Indicator; Automatic Direction Indicator
ADH	Automated Data Handling
ADISP	Aeronautical Digital Information System Panel
ADIZ	Air Defense Identification Zone
ADL	Armament Datum Line
ADM	Air Defense Missile
ADP	Acceptance Data Package; Automatic Data Processing
ADPE	Automatic Data Processing Equipment
ADPLL	All Digital Phase Locked Loop
ADR	Advisory Route
ADRAN	Advanced Digital Ranging System
ADRS	Automatic Data Reporting System
ADS	Air Defence System; Air Defence Ship; Accessory Drive System; Air Data System; Advanced Data System
ADSEL	Address Selection Beacon System
ADSS	Aircraft Damage Sensing System
ATTU	Auxiliary Data Translator Unit
ADV	Air Defence Variant
adv	Advanced
ADZ	Air Defence Zone
AE	Air Electrical; Auxiliary Equipment
A&E	Armament and Electronics
AEA	Abort Electronic Assembly
AEB	Aft Equipment Bay
AEDS	Atmospheric Electric Detection System
AEEC	Airlines Electronic Engineering Committee
AER	Azimuth Elevation Range
AERCAB	Integrated Aircrew Escape/Rescue Capability
AERO	Aeronautical Weather Report
AES	Artificial Earth Satellite
AEROS	Artificial Earth Research and Orbiting Satellite
AEROSAT	Aeronautical Satellite (NASA-ESRO)
AEW	Airborne Early Warning
AEWC	Airborne Early Warning and Control
AF	Air Force; Audio Frequency
A/F	Airfield; Airframe
AFAADS	Advanced Forward Area Air Defense System
AFB	Air Force Base; Anti-Friction Bearing
AFBM	Air Force Ballistic Missile
AFC	Automatic Frequency Control
AFCE	Automatic Flight Control Equipment
AFCS	Adaptive Flight Control System; Automatic Flight Control System; Avionic Flight Control System; Air Force Communication System
AFCO	Automatic Fuel Cutoff
AFI	Automatic Fault Isolation
AFLS	Approach Flashlighting System
AFM	Anti-Friction Metal; Air Force Manual
AFPAM	Automatic Flight Planning and Monitoring
AFR	Automatic Frequency Regulation; Air Force Regulation; Air-Fuel Ratio
AFTN	Aeronautical Fixed Telecommunication Network
A/G	Air-to-Ground
AGACS	Automatic Ground-Air Communication System
AGAP	Attitude Gyro Accelerometer Package
AGARD	Advisory Group for Aerospace Research and Development
AGAVE	Automatic Gimballed Antenna Vectoring Equipment
AGC	Automatic Gain Control
AGCA	Automatic Ground-Controlled Approach
AGCS	Automatic Ground Checkout System; Automatic Ground Control System; Automatic Ground Computer System
AGCU	Attitude Gyro Coupling Unit
AGE	Automatic Guidance Electronics
AGM	Air-to-Ground Missile
AGT	Aviation Gas Turbine
AGW	Allowable Gross (Take-Off) Weight
AGZ	Actual Ground Zero
ah	Ampere Hour
AHI	Aerodynamic Heating Indicator
AHRS	Attitude Heading Reference System
AHRU	Attitude Heading Reference Unit
AI	Attitude Indicator; Aircraft Interception; Airborne Interception; Anti-Icing; Articulation Index
AI(Radar)	Aircraft Identification Radar; Air Interception Radar
AIA	Anti-Icing Additive
AIC	Aircraft in Commission; Ammunition Identification Code
AIDAS	Advanced Instrumentation and Data Analysis System
AIDS	Aircraft Integrated Data System; Airborne Integrated Data System; Abort Inertial Digital System
AIETA	Airborne Infrared Equipment for Target Analysis
AIG	Address Indicating Group; Accident Investigation Group
AIL	Airborne Instrument Laboratories
AILAS	Automatic Instrument Landing Approach System
AILS	Advanced Integrated Landing System; Automatic Instrument Landing System
AIM	Air Intercept Missile

Figure 7-11 -- Abbreviations and Acronyms

compilers in each country but a general editor for each language should have reviewed all the terms before they were printed, preferably a translator actively engaged in translating current literature."

In March 1978 it was agreed that production of the MAD should stop until there had been substantial improvements in the quality of the contents. To this end it was agreed that the national representatives who had prepared the translations should be asked to review a second set of proofs, with guidelines and recommendations provided by the AGARD editor and translator. However, it was found that some of the specialists who had prepared the original translations were no longer available and had been replaced by others who were unfamiliar with the MAD task. The production plan was therefore changed, and the AGARD editorial contractor was assigned full responsibility for making all corrections.

Shortly thereafter it was decided that proof should be supplied to the editorial contractor in triple-spaced form to simplify the jobs of the editor and the keyboard operators. The task of improving the quality of the dictionary was not a small one. Achieving consistency among nine different languages was a very large task for the one contractor who remained on the job. It was of course necessary for her to call on language experts despite her outstanding abilities in several languages a well as her excellent background in the field of aeronautics. At this time it seemed possible to complete the corrections on a schedule that would permit printing of the dictionary in January 1979.

The problems to be solved were numerous and varied. For example, there was a matter of the Turkish character which was designated as a "dotless i." In the review of the first proof, the Turkish translator stated that "Turkish speaking people would have no difficulty in recognizing the words concerned even though spelled with the i with a dot." The editor felt that this was not accceptable to non-Turkish users of the dictionary and therefore it was necessary to add the dotless i character to the film matrix strip. Similar adjustments had to be made in the Cyrillic and Greek alphabets. In addition to matters of translation quality, there were problems involving the handling of multiple translations of English terms as well as translations of multiple English terms. Not only did these have to be coordinated within the dictionary but there were also problems of index preparation to be solved and worked out during this period.

By the end of 1978 there began to be real concern by AGARD as to when the dictionary would be finally published. Commitments had been made for printing and paper, and orders had

been accepted for the dictionary. The project had to be completed as quickly as possible. To that end a NASA STIF staff member visited the editor in London to expedite the further processing as much as possible. When the second set of revisions had been checked by the editor, she and her assistant visited the facility to resolve as many editorial problems as possible before the final processing steps.

In April 1980 the last pages of the editor's second revision of the dictionary were received, whereupon the final corrections were keyboarded and proofread, and the camera-ready copy was prepared. Thus a process that was expected to take about 2 or 3 months extended to more than 2 years. However, all those involved agreed that it was a necessary and worthwhile expenditure of time and effort.

9. FINAL PROCESSING

The final handling of the page proofs incorporated the editorial revisions, typographic corrections, and the addition of translations that had arrived while the dictionary was in the editorial revision stage. Many problems were encountered but few were unexpected for a project of the complexity of a multilingual dictionary and for a project that had been in the works for several years. For example, the PHOTON 713 used for the photocomposition was state-of-the-art when the project was conceived in 1973, but it was almost obsolete by the conclusion of production early in 1980. The required changes in matrix strips were difficult to make. Equipment maintenance was conducted on a standby basis during the final stages of composition. The Greek translations were particularly demanding on the PHOTON 713 because of the heavy use of accents. Until the pages were photocomposed for the editorial revision, it had not been possible to proofread the Greek and Russian translations. At this point the need to incorporate several new characters into the film matrix was revealed. The problem was further complicated by the difficulty in retaining keyboard personnel with skills in Russian and Greek. In the final weeks of corrections, keyboarding of Greek and Russian was handled by regular keyboard personnel.

Style and minor format changes were continued through the final days of processing. While these worried the proofreaders, the availability of a computer base made the handling of such changes a routine matter, even when they invoked changes in the Index section.

The vertical justification program was not sophisticated enough to handle every nuance of typographic style. In the final preparation of the camera-ready copy some cutting and pasting were needed to avoid awkward column and page breaks.

Despite the problems, the final input of revisions and corrections, proofreading, and preparation of camera-ready pages were completed by the summer of 1980.

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14. Abstract

The AGARD Multilingual Aeronautical Dictionary (MAD), second edition, published in 1980, contained 7,300 technical terms defined in English but also translated into nine other languages. The preparation work was performed by some 250 scientists and engineers who were members of AGARD and involved the translation skills of staff in many of the NATO nations. Nearly all the compilation and setting work for the book was done by computer and automatic photo-composition, a task of great complexity and one which is unique. The purpose of this publication is to record how the task was approached, in terms of management planning; to state frankly what went wrong, so that these errors will not be repeated; and to make some modest reference to the successes of the programme. It does not deal in great detail with the technical aspects of the task.

This report was prepared at the request of the Technical Information Panel of AGARD.

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