

INTERNATIONAL APPRAISERS' PROGRAM (IAP)

and

INTERNATIONAL APPRAISERS' PROGRAM BOARD OF GOVERNORS (IBG)

I.S.T.A.T.

International Society of Transport Aircraft Trading

By

International Appraisers' Program Board of Governors

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Unless specifically indicated otherwise, references herein to various groups, persons and titles should be considered to have the following meanings:

Administrative Director. *The Administrative Director of the ISTAT Appraisers' Program*

Chairman. *The Chairman of the ISTAT International Appraisers' Program*

Chairman-elect. *The elected successor to the incumbent Chairman*

Directors. *Members of the ISTAT Board of Directors*

Executive Director. *The Executive Director of the ISTAT headquarters staff*

IBG. *The ISTAT International Appraisers' Program Board of Governors*

President, Vice President. *The President and Vice President of ISTAT*

Program. *The ISTAT Appraisers' Program*

Society. *ISTAT (International Society of Transport Aircraft Trading)*

ISTAT INTERNATIONAL APPRAISERS' PROGRAM

A. Program Overview

The International Society of Transport Aircraft Trading (ISTAT) is a non-profit society whose members have common interests in the manufacture, purchase, brokerage, leasing, maintenance and appraisal of transport aircraft. International in structure, it is self-supporting and unaffiliated. Within ISTAT is a core group of professional aircraft appraisers who work cooperatively for the elevation of the appraisal profession within the world aviation community.

Each ISTAT member, who has satisfactorily demonstrated that he/she is qualified to appraise airline transport aircraft, has been granted the right to use one of the professional designations established by ISTAT. The use of such designations is predicated upon Society criteria: written examinations, submission of representative appraisal reports, full-time valuation experience, personal background check and participation in the Society's program of ongoing education.

Ethical practices and conduct required of the appraisers accredited by the Society are clearly defined in the ISTAT publication, *Principles of Appraisal Practice and Code of Ethics*.

B. Professional Appraiser Categories

The ISTAT Appraisers' Program has established four professional status categories:

- Appraiser
- Senior Appraiser
- Appraiser Fellow
- Appraiser Emeritus

These professional status categories are awarded to individuals, not to corporations or other business organizations. Only Senior Appraisers may use the designation "ISTAT" after their names. An Appraiser Fellow may use the designation "FISTAT." The category of "Candidate" is established to formalize the status of applicants wishing to join the program.

The primary prerequisites for attaining the foregoing professional designations are:

1. Education

A Bachelor's degree, or higher degree from a recognized institution of learning or such other education, knowledge or experience as may be deemed to be the equivalent of such professional education by the International Appraisers' Program. This higher education prerequisite should recognize aviation content as being highly desirable, carrying significant weight for consideration of an application to enter the program as a Candidate.

2. Experience

"Appraiser" status requires a minimum of five years employed full time in aviation-related business, of which no less than two years shall have been spent in accomplishing aircraft appraisals.

"Senior Appraiser" status requires a minimum of seven years employed full-time in aviation-related business, of which no less than six years shall be spent in accomplishing aircraft appraisals.

“Appraiser Fellow” is an honorary designation, and may be bestowed by the Appraisers’ International Board of Governors (IBG) on a Senior Appraiser who has rendered outstanding service to the appraisal profession and the Society.

“Appraiser Emeritus” is an honorary designation, bestowed by the IBG on a Senior Appraiser, or Appraiser Fellow, for outstanding service to the Appraisers’ Program and the Society. The designation is contingent upon remaining a member of ISTAT; but through ill health, or similar circumstances, cannot continue permanently to participate in the Appraisers’ Program mandatory continuous education program.

3. Examinations

In order to achieve Appraiser or Senior Appraiser status through the ISTAT Appraisers’ Program, the individual, in addition to other mandatory requirements, must pass a comprehensive examination covering areas of general valuation theory, technical expertise and professional ethics. After advancing to the professional status of “Appraiser”, the individual may sit for examination to advance to the professional status of “Senior Appraiser” no less than two years later.

4. Appraisal Reports

Candidates for a professional designation must submit sample full appraisal reports, including reports for aircraft physical inspection and maintenance documentation inspection actually accomplished by the Candidate, for evaluation and review as part of the professional designation process. See the section *Types of Appraisals* for the definition of a full appraisal.

5. Personal Investigation & Sponsorship.

Each individual seeking ISTAT admission as a Candidate must furnish professional and personal references and be subject to background investigations. A sponsor must sign the application form and be an ISTAT Certified Appraiser with at least two years certification seniority or a Certified Senior Appraiser. The sponsor should consider an aeronautical education and hands-on experience in the aviation industry as highly positive factors in supporting a prospective appraiser Candidate. The sponsor should contact the professional references provided by the candidate, verify his work history, and have knowledge of his current appraisal activities. The Appraisers’ International Board of Governors and Administrative Director will heavily weight these factors in considering the qualifications of a prospective Candidate.

C. Appraiser Candidates

Appraisers and persons engaged in the appraisal profession may apply to join the program at the Candidate level. They may then participate in the program activities such as educational programs, seminars and other activities for a period of three years, during which time they have to meet the qualifying criteria and take the examinations. In the event they are not successful in passing the exams during this time, they may renew their participation in the program for two more years upon payment of a second entry fee in order to take the exams (see Section E below). Therefore the maximum length of time a Candidate can remain continuously in the program is five years.

Candidates shall be of legal age, of good character, interested in the activities and objectives of the Society and its transport aircraft appraisal program, and shall have established business experience in their communities.

Candidates are not professionally designated and may not use the ISTAT professional designations. Candidate memberships are personal and cannot be transferred, nor applied to business organizations.

D. Mandatory Recertification Program

To assure that competent, relevant, current valuation counsel will be available to the public, ISTAT requires that all participating professional appraisers recertify on a regular basis. This mandatory program emphasizes professional participation in a continuing education process.

The continuing education program will primarily be comprised of seminars to be held in conjunction with the annual ISTAT conference. Ideally, ISTAT appraisers should attend every seminar. In order to retain accredited status, an ISTAT appraiser may not be absent from more than two consecutive annual seminars.

E. Application to Participate in the Appraisers' Program

Initial entry into the ISTAT Appraisers' Program begins with the application for entry at the Candidate level. Applicants must be paid-up members of ISTAT and submit the application form co-signed by the sponsor together with the entry fee. A Candidate's participation in the program is limited as follows:

1. A Candidate's enrollment will be limited to an initial period of three years during which time period he must arrange with the ISTAT Appraisers' Program Administrator to sit for the tests and successfully attain the status of Appraiser.
2. Should a Candidate be unsuccessful in passing the examinations within a time frame roughly approximating the three-year time limit, and if approved by the ISTAT Appraisers' Program Administrator, the Candidate shall be required to re-apply for testing and pay another application fee, upon which he/she will be granted one additional period approximating two years during which time the Candidate must achieve Appraiser certification.
3. Should a Candidate fail to achieve Appraiser certification after the additional two-year extension period, he/she shall be barred from re-applying to the program for admission and testing. The only waiver to this provision may be granted by the International Appraisers' Program after reviewing any application for relief and agreeing to grant same following an affirmative vote of the majority of the Board.

Candidates may apply for advancement to the professional status of "Appraiser" for which they must take the qualifying Ethics and Technical examinations (minimum of five years professional experience at the time of completing and passing the examinations). A Candidate can apply to take the examinations for advancement in grade no sooner than 12 months after being admitted as a Candidate and must submit the application for advancement and other qualifying material listed below at least 90 days prior to the annual examination, which will usually be offered during the ISTAT Annual Conference. This allows a period of 60 days for ISTAT to review the application material, to examine the examples of appraisal work, and to contact the persons listed by the Candidate as references.

After the period of no more than 60 days the Candidate will be notified whether he is qualified to take the examination. If the application is denied, ISTAT will describe the shortcomings of the application package and if possible an opportunity will be provided for the Candidate to remedy the deficiencies in time to take the examinations.

Certified "Appraisers" may apply for advancement to the professional status of "Senior Appraiser" for which they must take the qualifying Technical examination no less than two years after attaining

“Appraiser” status (minimum of seven years professional experience required at the time of completing and passing the Technical examination).

With regard to the minimum experience requirements, the Society recognizes that a Candidate may have been engaged in more diverse activities than solely appraisals. The minimum requirements may be satisfied on a pro-rata basis such that, for example, two years of employment during which appraisals constituted approximately one-half of the activity may be construed as the equivalent of one year of full-time experience. A maximum of five years of part-time appraisal work can be used for totaling the two years of full-time experience. When a Candidate has been admitted to the Program without the full two years of appraisal experience, page three of the original application form must be updated and resubmitted when applying for an advancement in grade. Page three details the appraisals a Candidate has undertaken so that it can be determined if the experience requirements have been met.

F. Description of Appraisers' Examinations

The Ethics examination administered to Candidates wishing to advance to “Appraiser” status will be based primarily on the subject matter in *ISTAT Principles of Appraisal Practice and Code of Ethics* as set forth in the program handbook. The examination requires written responses (not true-false or multiple-choice format) showing that the Candidate has an appreciation of the issues in question, that he understands the basis for the principles set forth in the handbook, and that he can express himself clearly and logically on such matters.

The Technical examinations for Candidates and Appraisers wishing to advance in grade are intended to reveal the individual's understanding of various technical terms and techniques that form part of the aircraft appraisal profession. Questions may relate to regulations such as those issued by the FAA. A detailed knowledge of individual FAA regulations is not necessarily required, but the examinee is expected to have a general understanding of those most relevant to aircraft valuation. Some questions may deal with definitions of various types of values as set out in this handbook, or other terms such as those contained in the Glossary section. The examinee may be asked to interpret extracts from aircraft maintenance records, such as engine “disk tables” and airframe maintenance programs and explain effects of various technical factors on aircraft values.

In the case of Candidates applying for advancement to Appraiser grade, there is a second part to the technical examination wherein the examinee will be asked to compose sections of a typical aircraft appraisal report based on information provided in the examination materials. This second examination will also include a finance-related question, such as determining the present value of lease payments and residual values in a financial appraisal.

G. Checklist for the Appraiser Certification Application Package

The applicant must already be a Candidate appraiser, and the application for advancement must include the required fees for examination and advancement. The application package should be submitted to ISTAT Headquarters and should include the following items:

1. Completed, updated application form including page 3 detailing professional experience of at least five years and aircraft appraisal experience totaling at least two years.
2. Check for current annual ISTAT membership dues if not already paid.
3. Examination and advancement fee (non-refundable).
4. List of three professional references as described in the application for advancement form.

5. Examples of appraisal work; two Full Appraisal reports accomplished within the previous two years to include aircraft maintenance documentation inspections and aircraft physical inspections actually accomplished by the Candidate; all to demonstrate the Candidate's ability to write a complete appraisal. Confidential client information may be deleted. These reports will not be copied by ISTAT, and if requested they will be returned promptly to the Candidate after being reviewed.

H. Administrative Director

The position of Administrative Director has been established to provide continuity and support to the ISTAT Appraisers' Program. The Administrative Director is chosen by the ISTAT Board of Directors upon recommendation by the Chairman of the International Appraisers' Program (IBG), who, with two other Senior Appraisers, will review the suitability of candidates for the position. While there are no strict qualifications required, ideally the Administrative Director should have been a Senior Appraiser or Fellow, preferably retired from full-time appraisal activity and having previously served on the International Appraisers' Program, who is able to devote the necessary time to the appraiser program. He receives a salary plus reimbursement for reasonable expenses incurred in furtherance of the program, and serves for no fixed term of office.

The Administrative Director provides administrative support and assistance to the Chairman of the International Appraisers' Program, and similarly assists the Executive Director of the ISTAT headquarters staff. His specific responsibilities include:

- Respond to requests for information regarding the ISTAT Appraisers' Program.
- Review all applications to join the Program, including the checking of references by the applicant's sponsor and the non-appraiser members of the Appraisers' International Board of Governors.
- Review all applications for advancement in grade for qualifications and coordinate the review of the Candidate's sample appraisal reports with the appraiser members of the Appraisers' International Board of Governors.
- Compose examination questions; arrange and administer the annual examinations for appraisers who have applied for advancement in grade.
- Usually two appraiser members of the IBG are responsible for grading all of the examination papers. However, in the event there are a large number of papers to be marked, the Administrative Director may request the Chairman and/or a former IBG appraiser member to assist in the marking. To ensure consistency in marking, two appraisers will independently from each other grade all of the papers in each exam subject. i.e. Technical, Ethics or Appraisal. The Administrative Director will coordinate the process and act as an arbiter in any disputes from the grades given.
- Notify examinees of results. Also notify the Chairman of the International Appraisers' Program, ISTAT President, Executive Director and editor of the Jetrader of the names of examinees who successfully passed the examinations.
- Assist in organization of field trips for participants in the Appraisers' Program.
- In concert with the Chairman, obtain speakers and organize the continuing education seminar and Appraisers business meeting held during the annual ISTAT conference.

- Revise and distribute the Appraisers' Program handbook as necessary.
- When requested, serve on the committee responsible for organizing the annual European Conference, coordinating with the Executive Director of the ISTAT headquarters staff.
- Reproduce and distribute notices and letters by the Chairman to the participants in the Appraisers' Program.
- Write articles for the Jetrader as required, and provide items of interest to the Chairman for his column.
- Maintain current the dossier on the participants in the Program, including professional grades attained, service on the International Board of Governors, attendance at the mandatory continuing education seminars, field trips taken, changes in employment and changes of addresses.

APPRAISERS' INTERNATIONAL BOARD OF GOVERNORS

A. Functions & Responsibilities

On March 8, 1989, after conducting a six-year development program, the ISTAT Board of Directors officially instituted the International Appraisers' Program (IBG). The IBG has the responsibility to administer, oversee, modify standards and procedures of appraisal practice and the Code of Ethics, and govern the ISTAT Appraisal Program. It also has the responsibility of hearing, reviewing and ruling upon any disciplinary action which may have to be taken should a certified ISTAT appraiser be brought before the board for allegedly violating the rules, Code of Ethics or established appraisal practice standards and procedures.

B. Membership in the Appraisers' International Board of Governors

The ISTAT Appraisers' IBG shall be comprised of three certified ISTAT Senior or Fellow Appraisers (including the chairman) plus five additional members of ISTAT representing other interests such as leasing companies, banks, airlines, manufacturers, aircraft repair agencies, and aircraft brokers.

The Chairman must hold current ISTAT Senior Appraiser or Fellow status and have a minimum of ten years' professional experience in the commercial aviation industry.

C. Election of IBG Chairman, Chairman-Elect and Members, and Terms of Office

The Chairman of the International Appraisers' Program shall serve for a period of three years. At the conclusion of the second year of this three-year term, a Chairman-Elect shall be selected as a successor to the incumbent Chairman. The term of the Chairman Elect shall overlap the third year of the incumbent Chairman's term, followed by a three-year term as Chairman. An incumbent Chairman may be re-elected to serve one additional consecutive term, but he must be nominated and elected to do so one year prior to completing his first term.

Beginning one month preceding the annual ISTAT conference, nominations for Chairman Elect and/or IBG Appraiser Members may be submitted in writing to the current Chairman. Nominees must be ISTAT members and have agreed to be nominated. Nominations may be presented by any Candidate Appraiser, Appraiser, Senior Appraiser, or current member of the International Board of Governors, and may be presented as late as prior to the start of the annual Appraisers' Program business meeting, which is usually held before the annual ISTAT conference. Voting will be by secret ballot during the appraisers' continuing education seminar held at the conference, with votes being cast by Appraisers, Senior Appraisers and members of the IBG who are present at the seminar. No write-in or absentee ballots may be cast. Votes will be tallied immediately by two persons designated by the Chairman, and the results will be announced at that time.

The two remaining Appraiser members of the International Board of Governors shall serve two-year terms with their terms staggered. These two appraisers have the additional responsibility of reviewing and grading the examinations of those applicants who have taken the ISTAT Appraisers' certification examinations, and the staggering of terms assures continuity in the grading process.

In accordance with the ISTAT by-laws, the five non-appraiser members of the IBG are elected by the ISTAT Board of Directors from candidates of their choosing. Likewise, their two year terms are also staggered, with two replacements elected one year and three the following year. The Program Administrator shall coordinate the process with the ISTAT Board and the Program Chairman.

D. Confidentiality

All matters undertaken by the International Appraisers' Program must be kept in strict confidence. Any details of the case against, or the circumstances regarding, any ISTAT appraiser(s) (including the appraiser's name) that may be brought before the IBG for review/or possible disciplinary action, shall be kept confidential by the IBG. The very knowledge of such review must remain completely confidential to the IBG, and the reputations of the ISTAT appraisers strictly guarded during the process. Whatever action the IBG elects to take must remain private to the Board and is not to be released to anyone outside the IBG.

E. Appraisers' International Board of Governors Actions

Should the International Appraisers' Program recommend disciplinary action, the recommendation will be presented to the Board of Directors of ISTAT who shall then take whatever action deemed appropriate. It will be the ISTAT Board's responsibility to make such actions public and publish the results of such action in the ISTAT newsletter and/or elsewhere as they deem appropriate.

F. No Liability

As a prerequisite to becoming certified as an ISTAT appraiser, the Candidate, in signing the application, certifies that the Candidate releases the ISTAT Board of Directors and International Appraisers' Program from any liability in their conduct and operation of this appraisal program.

G. Resolution of Disputes

The International Appraisers' Program and the membership of the ISTAT Aircraft Appraisers' Program will provide a mechanism for hearing complaints lodged against any active participant in the Program with respect to that participant's activities as an appraiser. Such complaints should be presented in writing to the Chairman of the International Board of Governors. The written complaint must include acknowledgment that the Chairman and any other parties called upon by the Chairman to assist in the resolution of the matter will not be held liable for any actions they may take with respect to the complaint. If the original complaint does not include these assurances, the Chairman will request that they be provided before he proceeds further with any investigation or disciplinary action.

Upon receiving a complaint, the Chairman may consider attempting to resolve the problem through his own good offices, such as sending a cautionary letter to the member against whom the complaint has been lodged. The Chairman may use his discretion whether to identify the complaining party.

If the Chairman deems the complaint to be of sufficient gravity, he may convene a "Dispute Resolution Committee" comprised of three members of the ISTAT Appraisers' Program, made up of the current Chairman, current Administrator, and any active past Chairman.

In the event of a conflict or a complaint directed toward the Administrator or current, or past Chairman a third member participant shall be selected from the active Senior Certified Appraisers then serving on the International Board of Governors to hear the complaint; said Senior Certified Appraiser shall be selected by agreement between the two non-conflicted parties remaining on the Dispute Resolution Committee.

The Dispute Resolution Committee shall hear complaints directed toward Program Members and Candidates involving:

- ethics violations
- material commercial incompetence (the inability to render a meaningful appraisal product),
- improper business practices,
- other matters of a significant nature which may come before the Committee.

As part of their investigative process, the Dispute Resolution Committee may call upon the Member against whom the complaint has been lodged, and that Member will cooperate with the Committee in answering questions or explaining circumstances that may be relevant. Failure of the Member to respond in a timely matter may be interpreted by the Committee as admission that the complaint is well founded.

Upon completing their investigation, the Dispute Resolution Committee may recommend actions such as the following:

- the dispute under scrutiny requires no action,
- a letter of censure or reprimand from the Chairman of the International Board of Governors with a cease and desist recommendation,
- withdrawal of the ISTAT Appraiser's Certification, or in the case of a Candidate Appraiser, termination of his participation in the ISTAT Appraisers' Program.

Upon unanimous agreement of the Dispute Resolution Committee, the above recommended action(s), if any, shall be submitted to the International Appraisers' Program for a vote. If the Board shall agree in the majority, the recommendations shall be forwarded to the ISTAT Board of Directors for their consideration. Should the International Board of Governors not agree by a majority vote, then the recommended action shall be terminated and the matter concluded.

Should the Dispute Resolution Committee and the International Board of Governors both agree upon the recommendation of an act to remove an Appraiser's certification or a Candidate's membership, then the action shall be submitted to the ISTAT Board of Directors for their advice and consent.

In keeping with the confidentiality required of any deliberations by the Appraisers' International Board of Governors, the nature of the complaint, the Committee's recommendations, and the final action taken will not be made public or discussed with the membership without prior consent by the ISTAT Board of Directors.

TYPES OF APPRAISALS

DESKTOP APPRAISAL A desktop appraisal is one which does not include any inspection of the aircraft or review of its maintenance records. It is based upon assumed aircraft condition and maintenance status or information provided to the appraiser or from the appraiser's own database. A desktop appraisal would normally provide a value for a mid-time, mid-life aircraft.

EXTENDED DESKTOP APPRAISAL An extended desktop appraisal is one which is still characterized by the absence of any on-site inspection of the aircraft or its maintenance records, but does include consideration of maintenance status information that is provided to the appraiser from the client, aircraft operator, or in the case of a second opinion, possibly from another appraiser's report. An extended desktop appraisal would normally provide a value that includes adjustments from the mid-time, mid-life baseline to account for the actual maintenance status of the aircraft.

FULL APPRAISAL A full appraisal is one that includes an inspection of the aircraft and its maintenance records. This inspection is aimed solely at determining the overall condition of the aircraft and records to support the value opinions of the appraiser, and would not, for example, include opening of inspection panels on the aircraft or a detailed review of record archives. A full appraisal would normally provide a value that includes adjustments from the mid-time, mid-life baseline to account for the actual maintenance status of the aircraft, and possibly other adjustments to reflect the findings of the inspection of the aircraft and its records.

COMPREHENSIVE APPRAISAL A comprehensive appraisal is one that includes a detailed inspection of the aircraft and records. Sufficient detail is required, for example, to insure that the records are in sufficiently good order to allow for the re-registration of the aircraft in a different country.

FINANCIAL APPRAISAL A financial appraisal is one that determines the value of an aircraft to an investor based upon the income earning potential from its lease and residual value. A financial appraisal may be done in conjunction with either desktop or full appraisals.

NOTE: Regardless of the type of appraisal being performed, the appraiser should clearly state to his client the type of appraisal, the principal assumptions in the analysis, and the sources of information upon which the appraisal is based.

VALUE DEFINITIONS

Preamble

Almost every trade or profession has evolved a vocabulary of its own in which words and phrases that may also be in common everyday use by laymen are endowed with special meaning within the profession. An engineer, for example, might refer to the *strain* experienced by a structural member, and his colleagues will know that he is describing the amount of its distortion or elongation, and he may also refer to the *load* carried by the member, or the *stress* within the material. The distinctions are clear to his colleagues, in fact such precision of language is essential to their understanding, but many laymen would fail to appreciate the distinctions among stress, strain and load.

Likewise, the vocabulary of aircraft appraisers may be generally well understood within the profession, but appraisal reports are almost invariably prepared for non-appraisers and may be read by accountants, financiers, lawyers, tax authorities, judges, investors and juries of laymen. Thus it is incumbent on the appraiser to fully understand the vocabulary of appraising, and at the same time to set forth in his written reports the meanings of various terms so that his opinions are neither misapplied nor misunderstood by the users of the reports.

Normally an appraisal is concerned with the determination of a *value*. Below are definitions of some of the types of values that appraisers are most commonly asked to determine. Elsewhere in this volume are glossaries of additional technical and financial terms frequently used in appraisals.

Unique circumstances may demand specific definitions not found below. The definitions offered here provide the fundamental concepts and are not the only acceptable definitions, since contracts for some aircraft sales and leases may dictate a somewhat different notion through definitions of their own. *To the maximum extent possible, appraiser's use of these terms should conform to those the ISTAT guidelines. Where the circumstances of a particular appraisal assignment dictate a departure from these guidelines (such as an appraisal in connection with a lease or purchase contract that contains its own definitions), the appraiser's report should clearly state the definitions attached to such terms to preclude any possibility that they could be misconstrued as conforming to the ISTAT guidelines.*

Base Value is the Appraiser's opinion of the underlying economic value of an aircraft in an open, unrestricted, stable market environment with a reasonable balance of supply and demand, and assumes full consideration of its "highest and best use." An aircraft's **Base Value** is founded in the historical trend of values and in the projection of value trends and presumes an arm's-length, cash transaction between willing, able and knowledgeable parties, acting prudently, with an absence of duress and with a reasonable period of time available for marketing.

In most cases, the **Base Value** of an aircraft assumes its physical condition is average for an aircraft of its type and age, and its maintenance time status is at mid-life, mid-time (or benefiting from an above-average maintenance status if it is new or nearly new, as the case may be).

Comment. Since **Base Value** pertains to a somewhat idealized aircraft and market combination it may not necessarily reflect the actual value of the aircraft in question, but is a nominal starting value to which adjustments may be applied to determine an actual value.

Because it is related to long-term market trends, the **Base Value** definition is commonly applied to analyses of historical values and projections of residual values.

In certain appraisal assignments, the appraiser may deem it more appropriate to determine an aircraft's value using alternative methodologies such as those relating to discounted rental streams, projected future profits, or, recognizing the possibilities of unusual aircraft of

indeterminate value being swapped or exchanged for other aircraft or assets whose value can be more readily determined and assigned to the unusual aircraft. If he uses the term **Base Value** in the context of such an analysis, he should use it in such a way as to preclude any misunderstanding of the meaning ascribed to the term.

Market Value (or **Current Market Value** if the value pertains to the time of the analysis) is the Appraiser's opinion of the *most likely trading price* that may be generated for an aircraft under the market circumstances that are perceived to exist at the time in question. **Market Value** assumes that the aircraft is valued for its highest, best use, that the parties to the hypothetical sale transaction are willing, able, prudent and knowledgeable, and under no unusual pressure for a prompt sale, and that the transaction would be negotiated in an open and unrestricted market on an arm's-length basis, for cash or equivalent consideration, and given an adequate amount of time for effective exposure to prospective buyers.

Comment. The **Market Value** of a specific aircraft will tend to be somewhat consistent with its **Base Value** in a stable market environment, but where a reasonable equilibrium between supply and demand does not exist, trading prices, and therefore **Market Values**, are likely to be at variance with the **Base Value** of that aircraft. **Market Value** may be based upon both the actual (or specified) physical condition and maintenance time status of the aircraft, or alternatively upon an assumed average physical condition and mid-life, mid-time maintenance time status, depending on the nature of the appraisal assignment. The actual basis for the aircraft's technical status used in determining the value should be set forth in the Appraiser's report.

Fair Market Value is synonymous with **Market Value**, and likewise **Current Fair Market Value** is synonymous with **Current Market Value** because the criteria typically used in those documents that use the term "Fair" reflect the same criteria set forth in the above definition of **Market Value**.

Comment. By itself, the term "Fair" does not bring any additional qualifications to the appraised value, but it is a term sometimes used in leases, sales contracts, tax regulations and legal documents, and is sometimes accompanied with a specific definition to which the contracting parties have agreed. In such cases an appraiser may be required to determine his value according to that particular definition, which should be delineated in the appraisal report.

Residual Value is the value of an aircraft, engine or other item at a future date, often used in connection with the conclusion of a lease term.

Distress Value, Forced Sale Value, Liquidation Value are terms to describe the Appraiser's opinion of the price at which an aircraft (or other assets such as an engine or spare parts) could be sold in a cash transaction under abnormal conditions – typically an artificially limited marketing time period, the perception of the seller being under duress to sell, an auction, a liquidation, commercial restrictions, legal complications, or other such factors that materially reduce the bargaining leverage of the seller and give prospective buyers a significant advantage that can translate into heavily discounted actual trading prices. Depending on the nature of the assignment, the appraiser may be asked to qualify his opinion in terms of disposition within a specified time period, for example 60 days, 90 days or six months as the needs may be. Apart from the fact that the seller is uncommonly motivated, the parties to the transaction are otherwise assumed to be willing, able, prudent and knowledgeable, and negotiating at arm's-length, normally under the market conditions that are perceived to exist at the time, not an idealized balanced market.

Comment. In determining its value, it is incumbent upon the appraiser to state clearly in the report the value definition employed, as well as the disposition time period used. The appraiser must recognize that such transactions are considerably removed from the ISTAT definitions of base and current market value; are apt to be significantly more variable, and in some cases, the appraiser may be asked for an opinion of a value of multiple assets disposed of in one transaction. The transaction may also be specified as being other than for cash. Without exception the appraiser must fully describe the definitions and assumptions he has made in the appraisal report.

While the **Distress Value** normally implies that the seller is under some duress, there are occasions when buyers, not sellers are under duress or time pressure and, therefore, willing to pay a premium value.

Securitized Value or **Lease-Encumbered Value** is the Appraiser's opinion of the value of an aircraft, under lease, given a specified lease payment stream (rents and term), and estimated future residual value at lease termination, and an appropriate discount rate.

Comment. The **Securitized Value** or **Lease-Encumbered Value** may be more or less than the Appraiser's opinion of **Current Market Value**. Moreover the Appraiser may not be fully aware of the credit risks associated with the parties involved, nor all related factors such as the time-value of money to those parties, provisions of the lease that may pertain to items such as security deposits, purchase options at various dates, term extensions, sub-lease rights, repossession rights, reserve payments and return conditions.

Salvage Value is the actual or estimated selling price of an aircraft, engine or major assembly based on the value of marketable parts and components that could be salvaged for re-use on other aircraft or engines. The value should be determined and stated in such a way to make clear whether it includes adjustment for removal costs. **Salvage Value** is not the same as **Scrap Value** which is defined below.

Comment. Salvage Value (Parting-out Value) becomes applicable when disassembly for parts would most probably result in the highest cash yield for the asset "as-is" as compared to the Market Value of the asset as a whole. For high-value items such as engines and landing gears, the salvage value might be estimated on the basis of the remaining "good time" before the item would require a major inspection or overhaul. While such disassembly for parts may result in the highest cash yield that can be generated in the marketplace, an owner may elect to reinvest in the asset to restore it as a working aircraft, engine or major assembly because the asset has a "value-in-use" to him that exceeds the Salvage Value or Parts Value.

Note: In addition to its meaning as an *appraisal* term above, Salvage Value is also an *accounting* term for the value of an asset when it has been fully depreciated over its book depreciation period. In this context, Salvage Value is not synonymous with Market Value.

Scrap Value is the actual or estimated market value of an aircraft, engine or major assembly based solely on its metal or other recyclable material content with no saleable reusable parts or components remaining. The scrap value is usually expressed as net of removal and disposal costs. In some cases scrap value could be zero if the dismantling and disposal costs are high, as for example hazardous materials or composite assemblies that might be impossible to recycle.

**CRITERIA ASSOCIATED WITH PRINCIPAL
TYPES OF APPRAISED VALUES**

Base Value	Market Value	Distress Value
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THE AIRCRAFT

Time status (if not new)	Usually mid-time, mid-life	Usually as found	Usually as found
Physical condition (if not new)	Usually average, considering type and age	Usually as found	Usually as found
Highest, best use valuation	Yes	Yes	Maybe

THE PARTIES

Willing, able, prudent & knowledgeable	Yes	Yes	Yes
Lack of pressure	Yes	Yes	No; seller is usually "motivated"

THE MARKET

Open, unrestricted	Yes	Yes	Yes
State of market balance	Reasonably stable, reasonably balanced	As perceived at the time	As perceived at the time

THE TRANSACTION

Arm's-length	Yes	Yes	Yes
Sale for cash or equivalent	Yes	Yes	Yes
Adequate time for effective exposure on market	Yes	Yes	No
Single-unit sale	Yes	Yes	Maybe

GLOSSARIES OF TERMS

Because of its specialized nature, appraisal practice involves the usage of many technical and financial terms that may not be commonly understood by clients or laymen. The following glossaries are intended to assist the appraiser's own understanding of these terms, as well as assist him when it is necessary for him to explain their meanings to third parties. The glossary is divided into two sections: technical terms and financial terms.

TECHNICAL TERMS

The following definitions are largely derived from other aviation industry publications, including;

Federal Aviation Regulations, particularly Parts 1 and 241

FAA Publication 8300.9, Airworthiness Inspector's Handbook

World Airlines Technical Operations Glossary (WATOG) developed jointly by the Air Transport Association (ATA), International Air Transport Association (IATA) and Aerospace Industries Association (AIA).

In some cases additional explanatory language has been added as clarification or to discuss the item's particular relevance to the aircraft appraisal process.

Note that many of the entries below refer only to the US FAA where it might be more appropriate to add "or other air authority." Also, in many cases the definitions are drawn from or refer to specific Federal Aviation Regulations, although it is possible that these could differ from similar regulations published by the air authorities in other international jurisdictions.

ACCIDENT An occurrence associated with the operation of an aircraft which takes place between the times any person boards the aircraft with the intention of flight and all such persons have disembarked, in which:

- Any person suffers death or serious injury as a result of being in or upon the aircraft, or by direct contact with the aircraft or anything attached thereto; or
- the aircraft received substantial damage; or
- any damage is caused to the property of a third party.

ADF Automatic Direction Finder. Picks up a signal from a ground Non-Directional Beacon (see NDB) and displayed on the pilot's ADF indicator. The needle on the indicator points towards the selected station, thus giving the pilot the bearing to the station relative to the aircraft's heading.

ADVISORY CIRCULAR A publication of the FAA to inform the aviation public of non-regulatory material of interest. Unless incorporated into a regulation by reference, the contents of an AC are not binding. An AC is issued to provide guidance and information in its designated subject area or to show a method acceptable for complying with a related Federal Aviation Regulation.

AIRCRAFT A device that is used or intended to be used for flight in the air.

AIRCRAFT COMMUNICATIONS ADDRESSING AND REPORTING SYSTEM (ACARS) A communications system that automatically reports via radio when an aircraft is out of the gate, off the ground, back on the ground, and at the gate again, thus automatically collecting data on

flight cycles, flight time and block time. During flight the system may also monitor and report on aircraft and engine performance.

AIRCRAFT, LARGE A defined category used by the US FAA for aircraft having a maximum certificated takeoff weight more than 12,500 pounds.

AIRCRAFT, SMALL A defined category used by the US FAA for aircraft having a maximum certificated takeoff weight of 12,500 pounds or less.

AIRCRAFT MAINTENANCE MANUAL (AMM) A manual that describes the methods, techniques and practices to be used by persons performing maintenance, alteration or preventive maintenance on an aircraft (see FAR 43.13).

AIRPLANE An engine-driven fixed-wing aircraft, heavier than air, which is supported in flight by the dynamic reaction of the air against its wings.

AIRWORTHINESS The condition of an item (aircraft, aircraft system or part) in which that item is capable of operating in a safe manner to accomplish its intended purpose. Two key factors are: the aircraft (or device) must conform to its type design and it must be in a condition for safe operation.

AIRWORTHINESS CERTIFICATE An Airworthiness Certificate is issued by the FAA for an individual aircraft when it is satisfied that the aircraft conforms to the Type Certificate and is in a condition for safe operation. The Airworthiness Certificate is issued to the registered owner, and is transferred with the aircraft. It remains in effect as long as the aircraft is maintained (or altered) according to the appropriate FAA regulations and continues to be registered in the United States. (See FAR 21).

AIRWORTHINESS DIRECTIVE (AD) A mandatory order issued by the FAA, usually applying to specific types of aircraft, engines or appliances, when an unsafe condition exists and that condition is likely to exist or develop in other aircraft, engines or appliances of the same design. An AD usually requires some maintenance action (possibly only an inspection), within some specified time in order to ensure continued safety and airworthiness, and no aircraft may be operated in contravention of the requirements or limitations of an AD.

ASSEMBLY A number of parts, subassemblies, or any combination thereof joined together to perform a specific function and which can be disassembled without destruction of designed use. (The distinction between an assembly and a subassembly is not always exact. An assembly in one instance may be a subassembly in another where it forms a portion of an assembly.)

BURDEN, MAINTENANCE (sometimes also referred to as indirect maintenance cost). Those maintenance labor and material costs not considered to be direct maintenance costs, but which contribute to overall maintenance program costs through overhead operations, administration, record-keeping, scheduling, controlling, planning, supervision, tooling, test equipment, facilities, etc.

CARGO All traffic other than passengers. Cargo includes freight, mail and excess baggage shipments.

CVR Cockpit voice recorder. A thirty minute endless tape which records the pilots' conversation and background noise.

COMPONENT Any self-contained part, combination of parts, sub-assemblies or units, which perform a distinctive function necessary to the operation of a system.

COST, DIRECT AND INDIRECT Although there is not an “official” definition from any regulatory body, aircraft direct operating costs (DOCs) is customarily categorized as follows:

- Flying Operations
 - Crew Salaries & Expenses
 - Fuel & Oil
 - Insurance
- Maintenance
 - Direct Labor & Materials
 - Maintenance Burden
- Depreciation & Rentals
- Landing Fees & Airport Handling Charges (sometimes)

The major categories of indirect operating costs include:

- Aircraft Servicing
- Traffic Servicing
- Servicing Administration
- Reservations & Sales
- Advertising & Publicity
- General & Administrative.

CYCLE, AIRCRAFT OPERATING A complete flight sequence including taxi, takeoff, flight en route, and landing. In the case of engines, a cycle includes starting, acceleration to maximum rated power, deceleration and stopping (FAR 33.14).

DAMAGE, FOREIGN OBJECT (FOD) Damage to any portion of the aircraft (most commonly engines) caused by impact or ingestion of birds, stones, hail or other debris.

EFIS Electronic Flight Instruments System. Replaces the conventional electro/mechanical cockpit gauges with computerized cathode tubes or liquid crystal displays combining a number of gauges. Multiple pages can be accessed for navigation and aircraft system information.

EGPWS Enhanced Ground Proximity Warning System, see GPWS.

EGT Exhaust Gas Temperature, temperature of the exhaust gasses in a turbine engine.

EGT Margin In a turbine engine, the difference between the EGT limit (or EGT red line) and the engine’s actual EGT when producing maximum thrust at the full rated take-off power setting. The actual EGT should be lower than the EGT limit, and the magnitude of this difference (the EGT margin) is indicative of the time remaining before normal deterioration of the engine will require removal for restoration.

ENGINE The basic engine assembly plus its essential accessories as supplied by the engine manufacturer. These include those units and components which are used to induce and convert fuel/air mixture into thrust/power; to transmit power to the propeller shaft, if any, and accessory drives; to supplement the function of other defined systems external to the engine; and to control and direct the flow of internal lubrication. The nacelle and the reverser are excluded. See also definition of QEC.

ENGINE SHOP VISIT An engine removal is classified as a "shop visit" whenever the subsequent engine maintenance performed prior to reinstallation entails one of the following:

- Separation of pairs of major mating engine flanges (other than solely for shipment),
- Removal/replacement of a disk, hub, or spool.

Sometimes the definition is specifically tailored, as in some Airworthiness Directives that say, "For the purpose of this AD, an engine shop visit is defined as input to an engine repair shop where the low pressure turbine module is removed" ... or "the front and rear flanges of the combustion case are separated" ... or "any major module is separated" ... or "the inlet gearbox is exposed."

EXPENDABLE see Item, Expendable.

EXTENDED OVERWATER OPERATIONS Flight operations over water at a horizontal distance of more than 50 nautical miles from the nearest shoreline. These are operations for which the regulations require certain communications equipment, as well as various items of emergency and water survival equipment (life rafts and emergency flotation devices, for example). Note that the distance is specified from the shoreline, not necessarily from an airport.

EXTENDED-RANGE OPERATIONS (EROPS) Generally, flight operations at a distance more than 60 minutes flying time with one engine inoperative from a suitable airport. "EROPS" now has virtually no official standing except within Canada where certain communication, navigation and emergency requirements pertain to all aircraft in extended-range operations, regardless of the number of engines. In the U.S. and many other countries, the requirements have evolved into "ETOPS" (listed separately below) with rules that apply only to twin-engine aircraft operating beyond the 60-minute distance.

EXTENDED-RANGE TWIN-ENGINE OPERATIONS (ETOPS) See also "EROPS" above. ETOPS applies specifically to twin-engine aircraft operated at a distance more than 60 minutes flying time with one engine inoperative from a suitable airport. In the U.S. there are approvals for ETOPS at distances from suitable airports, of 180 minutes or more at the engine-out cruising speed. In general, aircraft used in ETOPS must have an ETOPS type design approval which may require the incorporation of a substantial number of equipment options and Service Bulletins, and the national air authorities may approve specific operators, aircraft and routes based upon various qualifications, demonstrated reliability and competence. See Advisory Circular 120-42A for a discussion of the U.S. requirements for ETOPS.

FAIL-SAFE A design criterion which requires that predictable failure of an item will not place the aircraft into an uncontrollable condition. The intent is that a partial failure of a structural element, for example, will not lead to the catastrophic failure of the entire structure.

FLIGHT The entire passage consisting of one or more flight legs, from leaving the airport of origin to arrival at the airport of final destination and operated under one flight number.

FDR Flight Data Recorder. A fire and crash resistant black box (painted orange) which records the basic flight dynamics of the aircraft, such as airspeed, "G" loads, acceleration, altitude, attitude and direction. In addition, all of the operations of critical aircraft systems, such as control surfaces, pilot control inputs, engine, hydraulic, electrical systems etc. are recorded. The FDR can usually be located in the tail area of the aircraft and has a location radio transmitter.

GPS Global Positioning System, a worldwide radio-navigation system using a constellation of 24 US Department of Defense satellites as reference points enabling the receiver to compute position, velocity and time with very high precision.

GPWS and EGPWS Ground Proximity Warning System and Enhanced Ground Proximity Warning System. Equipment installed in an aircraft to automatically provide a timely and distinctive warning to the flight crew when the aircraft is in potentially hazardous proximity to the earth's surface. Typically a GPWS is based on downward-looking radar that senses

the aircraft's altitude above the ground and the rate of change of that altitude. EGPWS systems typically include forward-looking features and stored mapping databases to give the crew additional warning time and greater awareness of terrain elevations for a wide area around the aircraft.

HOT SECTION INSPECTION (HSI) The inspection and restoration of the hot section items of an engine (principally the combustion and turbine sections), usually at a predetermined time/cycle limit. A hot section inspection is not necessarily considered an "engine shop visit" (see separate listing) if no major disassembly or repairs are required.

HOURS, BLOCK/FLIGHT See listings under "Time"

ILS Instrument Landing System. Guidance consists of a localizer for lateral guidance and the glide slope for vertical guidance. Range from the touchdown zone is provided by the outer and middle electronic markers. There are several categories of ILS approaches. Most fall into Category 1, with the lowest decision height (DH) in this group set at 200 feet above the touchdown point and a minimum visibility of 1,800 feet runway visual range (RVR). The most severe category, reserved for aircraft and airports with very precise computer controlled guidance systems, is Category 3c with both the minimum DH and RVR set at zero feet.

INSPECTION, DETAILED An intensive visual examination of a specified detail, assembly, or installation. It searches for evidence of irregularity using adequate lighting and, where necessary, inspection aids such as mirrors, hand lens, etc. Surface cleaning and elaborate access procedures may be required.

INSPECTION, EXTERNAL SURVEILLANCE (STRUCTURAL): A visual check that will detect obvious unsatisfactory conditions/discrepancies in externally visible structure. It may also include internal structure which is visible through quick opening access panels/doors. Work stands, ladders, etc., may be required to gain proximity.

INSPECTION, GENERAL VISUAL A collective term which includes the External Surveillance Inspection, the Internal Surveillance Inspection, and the Walk-Around Check.

INSPECTION, INTERNAL SURVEILLANCE (STRUCTURAL) A visual check that will detect obvious unsatisfactory conditions/discrepancies in internal structure. This type of inspection applies to obscured structure and installations which require removal of fillets, fairing, access panels/doors, floor-boards, liners, insulation blankets etc.

INSPECTION, WALK-AROUND CHECK A visual check conducted from ground level to detect obvious discrepancies.

ITEM, EXPENDABLE Items for which no authorized repair procedure exists, and for which cost of repair would normally exceed that of replacement. Expendable items include nuts, bolts, rivets, sheet metal, wire, light bulbs, cable and hose. For financial accounting purposes, expendable items are normally considered to be consumed when they are issued, so they are then not carried as inventory assets.

ITEM, LIFE-LIMITED An item which, when listed on the aircraft, engine or propeller type certificate data sheet or the manufacturer's instructions for continued airworthiness, must be permanently removed from service and discarded before a specified time (e.g. hours, cycles or calendar limit) is achieved. Among the most significant life-limited items for appraisal purposes are engine disks and shafts.

ITEM, REPAIRABLE A replaceable part or component, commonly economical to repair, and subject to being rehabilitated to a fully serviceable condition over a period of time less than the life of

the flight equipment to which it is related. Examples include many engine blades and vanes, some tires, seats, galleys.

ITEM, ROTABLE An item that can be economically restored to a serviceable condition and, in the normal course of operations, can be repeatedly rehabilitated to a fully serviceable condition over a period of time approximating the life of the flight equipment to which it is related. Examples include avionics units, landing gears, auxiliary power units, major engine accessories.

ITEM, TIME-LIMITED An item which must be inspected, tested or reconditioned at specified intervals of time (hours, cycles or calendar) in order to ensure continued airworthiness. Not the same as Item, Life-Limited, listed separately.

JAA Joint Aviation Authorities, an association of the civil aviation regulatory authorities of European states for the development and implementation of common safety standards and procedures.

JAR Joint Aviation Requirements, advisory and regulatory materials promulgated by the Joint Aviation Authorities (JAA) pertaining to matters such as flight crew licensing, maintenance, operations and certification procedures.

LIFE, ECONOMIC USEFUL As it pertains to an aircraft or engine, the economic useful life is the period of time over which it is (or is expected to be) physically and economically feasible to operate it in its intended role. Periodic maintenance and repair will usually be required in order to preserve safety and efficiency during the economic useful life.

LIST, MINIMUM EQUIPMENT (MEL) An approved list of items which may be inoperative for flight under specified conditions and/or specific limited periods of time. For example, an aircraft with triple-redundant navigation systems might be permitted to depart with one system inoperative, or certain lights may be inoperative for daylight flights. An MEL is not transferable between operators of the same equipment.

MAINTENANCE Those actions required for restoring or maintaining an item in serviceable condition, including servicing, repair, modification, overhaul, inspection, determination of condition, preservation and storage.

MAINTENANCE, CONDITION-MONITORED A primary maintenance process under which data on the whole population of specified items in service is analyzed to indicate whether condition monitored maintenance allows failures to occur, and relies upon analysis of operating experience information to indicate the need for appropriate action.

some allocation of technical resources is required. Not a preventive maintenance process,

Note - Failure modes of condition-monitored items do not have a direct adverse effect on operating safety.

MAINTENANCE, HARD TIME A primary maintenance process under which an item must be removed from service at or before a previously specified time in order to perform some required actions such as inspection or refurbishment.

MAINTENANCE, ON-CONDITION A primary maintenance process having repetitive inspections or tests to determine the condition of units, systems, or portions of structure with regard to continued serviceability. Corrective action is taken when required by the item's condition. For example, a hydraulic component may be tested regularly to determine its internal leakage rate, but refurbishment is required only when the rate exceeds a specified limit.

MAINTENANCE, SCHEDULED The maintenance performed at defined intervals to retain an item in a serviceable condition by systematic inspection, detection, replacement of worn out items, adjustment, calibration, cleaning, etc.

MLW Max. landing weight.

MTOW Max. take off weight.

MZFW Max. zero fuel weight. Equals the operating empty weight of the aircraft (see OEW, which includes unusable fuel and an allowance for the weight of the crew), plus maximum allowable payload.

MEAN TIME BETWEEN FAILURES (MTBF) A performance figure calculated by dividing the total unit time or cycles accrued in a period by the number of unit failures that occurred during the same period.

MEAN TIME BETWEEN REMOVALS (MTBR) A performance figure calculated by dividing the total unit time or cycles accrued in a period by the number of unit removals (scheduled plus unscheduled) that occurred during the same period.

MID-TIME, MID-LIFE (sometimes half-time, half-life) These are two terms commonly used by appraisers to describe the maintenance time status of an aircraft or engine.

- Mid-time pertains to scheduled inspections or overhauls that are repeated at specified intervals of time, with "mid-time" (or half-time) implying that the status is mid-way through such an interval.
- Mid-life pertains to items with mandated life limits (engine disks, for example), and "mid-life" (or half-life) implies that such items have been in service for one-half of their life limits.

NDB Non-Directional Beacon. When its frequency (between 190 kHz and 535 kHz) is tuned by the pilot on his ADF (which see), the needle on his ADF indicator points to the station. Formally the primary radio navigation aid before the advent of the VOR system (which see), it is now used mostly to locate an NDB equipped airport during an instrument approach.

NON-DESTRUCTIVE TESTING (NDT) A maintenance procedure to determine the condition of an area or part of an aircraft or component by means of tests that do not affect the function or serviceability of the item being tested. Some commonly used NDT methods include visual, radiographic, magnetic particle, ultra-sonic, dye penetrate, and eddy-current inspections.

OEW Operating empty weight. (Sometimes called the OWE or operating weight empty). The weight of the aircraft with its normal operating equipment, unusable fuel and an allowance for the weight of the crew. It does not include payload and usable fuel. The aircraft must be weighed in accordance with the approved maintenance program schedule and airworthiness regulations.

OVERHAUL The disassembly, inspection and/or check of an aircraft, component, engine or appliance to an extent necessary to determine, as substantiated by service experience and accepted practices, that it is in satisfactory condition to operate one complete overhaul period. It shall include the replacement, repair, adjustment or refinishing of such parts as required, which, if improperly accomplished would adversely affect the structural strength, performance, flight characteristics or safety of the aircraft involved. See FAR 43.2 and also "rebuild" defined below.

PITOT-STATIC SYSTEM On a simple aircraft some of the flight instruments (airspeed indicator, altimeter and vertical speed indicator) are driven by air pressures derived from the passage

of the aircraft through the air. These pressures are sensed by the pitot tube and static ports. The pitot tube is an open-ended, forward-facing tube to sense the “ram” air pressure required to operate the airspeed indicator. The static ports are usually small, flush holes on the fuselage sides that sense static pressures for the altimeter and rate of climb indicator. These sensors, indicators and their connecting tubing constitute the pitot-static system.

POOL, PARTS An arrangement whereby participants are entitled to withdraw items from the agreed stock held by any participant.

PROGRAM, MAINTENANCE A program, either acceptable or approved by airworthiness authorities, which defines a logical sequence of maintenance actions to be performed as events or pieces of a whole which, when performed collectively, result in achievement of the desired maintenance standards. The program may be originated by the manufacturer or the operator.

- A “Block Maintenance Program” is one which allocates major structural inspections and/or maintenance tasks into groups, or blocks, which permit convenient, economical and effective accomplishment. A program of recurring C-Checks and D-Checks may be a block maintenance program. See also phased maintenance program below.
- A “Continuous Airworthiness Maintenance Program” is a compilation of the individual maintenance and inspection functions utilized by an operator to fulfill its total maintenance needs (see Advisory Circular AC120-16C and FAA publication 8300.9). The authorization to use continuous maintenance programs is documented in the operator’s Operations Specifications. The basic elements of a continuous airworthiness maintenance program are:
 - aircraft inspection
 - scheduled maintenance
 - unscheduled maintenance
 - engine, propeller and appliance repair & overhaul
 - structural inspection program / airframe overhaul
 - required inspection items
 - maintenance manuals
- A “Phased Maintenance Program” (sometimes called an “equalized” or “segmented” program) is one where some of the maintenance effort is apportioned to smaller packages that may be accomplished more frequently than the packages in a block maintenance program. Usually, the objective of this subdivision of effort is to even out the maintenance workload over time and shorten the length of each period of down-time.
- Note that the distinction between “block” and “phased” programs is not very clear. Different airlines and different air authorities have adopted many variations, so these terms do not have unique meanings applicable to all circumstances. For example, the C-Check might be divided into phases while the D-Check is left intact, or the D-Check might also be divided into phases, and the number of phases could be large or small. Moreover, different airlines have adopted different lettering and numbering terminologies to designate their checks.
- A “Progressive Maintenance” program is one which provides for the complete inspection of an aircraft within each 12 calendar months, consistent with the manufacturer’s recommendations and other regulatory requirements. In practice, this primarily applies to small aircraft, although FAA Order 8300.9 Section 5 says the progressive inspection system “is particularly adaptable to larger multiengine aircraft and aircraft operated by companies and corporations where high utilization is demanded.” See also FAR 91.409(d).

QUICK ENGINE CHANGE (QEC) A QEC kit is a collection of components and accessories such as pumps, generators, thrust reverser, nose cowl, wiring harnesses and fluid lines installed onto a bare engine to speed the eventual installation of the entire power plant onto an aircraft. See also "Engine." The actual make-up of the QEC kit will usually depend on the type of aircraft that the engine will be used on, and may also be different for different engine positions on the same aircraft. With the QEC kit installed, the power plant is sometimes then called a "QEC Unit."

REBUILD A maintenance process whereby an aircraft, engine, propeller, appliance or component part is disassembled, cleaned, inspected, repaired as necessary, reassembled and tested to the same tolerances and limits as a new item, using either new parts or used parts that either conform to new part tolerances and limits or to approved oversized or undersized dimensions. See FAR 43.2.

REGISTRATION CERTIFICATE With certain exceptions for foreign aircraft, aircraft with temporary authorizations, or aircraft of the armed forces, no aircraft may be operated without a Registration Certificate that is issued to its owner by the FAA. The Registration Certificate is also the basis for assigning a U.S. identification number ("N-Number"). Generally, the Registration Certificate remains effective until the aircraft is sold, exported, destroyed or scrapped. Note that this definition pertains specifically to the U.S. but comparable regulations apply in most other jurisdictions.

REPAIR The restoration of an airframe, powerplant or appliance to a condition for safe operation after damage or deterioration. A "Major" repair is one that, if improperly done, might appreciably affect weight, balance, structural strength, performance, powerplant operation, flight characteristics or other qualities affecting airworthiness.

REPAIRABLE see Item, Repairable

ROTABLE see Item, Rotable

ROTORCRAFT (sometimes rotocraft) A heavier-than-air aircraft that depends principally for its support in flight on the lift generated by one or more rotors.

RVSM Reduced Vertical Separation Minimum, a program to reduce the vertical separation between airways above Flight Level 290 (29,000 feet) from the previous 2,000-ft minimum to 1,000-ft minimum in order to increase airspace capacity. An implementation schedule for various regions of the world has been established by ICAO. Both the individual operator and the specific aircraft type require approval before conducting flights in RVSM airspace.

SERVICE BULLETIN (SB) A document issued by the manufacturer to notify the owner or operator of an aircraft (or engine or other device) of recommended (or required by Airworthiness Directives) modifications, substitution of parts, special inspections/checks, reduction of existing life limits or establishment of first-time life limits and conversion from one engine model to another. Service Bulletins may or may not be FAA-approved.

SUPPLEMENTAL TYPE CERTIFICATE (STC) See also Type Certificate. An STC is issued by the FAA to grant approval for an alteration of a product by a major change in the type design, where such a change is not great enough to require a new application for a Type Certificate. The STC is kept by the applicant and is then the basis for issuing or retaining airworthiness certificates to all aircraft (or engines or propellers) subsequently modified in the same way. In the case of alterations by the original manufacturer, approval is normally in the form of an amendment to the original Type Certificate, rather than an STC. (See FAR 21).

TIME, BLOCK Block time is the time from the moment an aircraft first moves for the purpose of flight until the moment it comes to rest at the destination; sometimes called block-to-block time. Push-back time is considered as part of Block Time.

TIME, FLIGHT Flight time is the duration of the airborne portion of a flight, sometimes called wheels-off to wheels-on time. It is always less than block time (see above). Note that FAR 1 appears to equate Block Time and Flight Time, but this is not generally accepted.

TIME, TOTAL The operating time that an aircraft, engine or component has accumulated since new. Unless otherwise stated, this is usually total flight time, rather than total block time.

TIME BETWEEN OVERHAULS (TBO) The maximum time that an item is permitted to operate between overhauls. TBOs are usually expressed in flight hours, cycles, or calendar increments.

TRAFFIC ALERT AND COLLISION AVOIDANCE SYSTEM (TCAS) A system intended to alert flight crews of the existence of nearby aircraft and to provide warning of imminent collisions. There are three categories of TCAS; TCAS I is a proximity warning system that advises pilots of the presence of nearby aircraft. TCAS II is intended to warn pilots of an impending collision, and it commands vertical avoidance maneuvers. TCAS III warns of the impending collision and commands both vertical and horizontal avoidance maneuvers.

TYPE CERTIFICATE A Type Certificate pertains to aircraft, aircraft engines and propellers. The FAA issues a Type Certificate when the applicant (normally the manufacturer) submits the type design, test reports, and computations and proves to the FAA's satisfaction that the product meets the applicable requirements of the FARs regarding airworthiness, noise and emissions. The Type Certificate is kept at the manufacturer's facility and is the basis for issuing airworthiness certificates to all aircraft (or engines or propellers) subsequently manufactured according to the same type design. (See FAR 21).

Type Certificates may also be issued for products manufactured in foreign countries with which the United States has an agreement for the acceptance of these products if the country of origin certifies that the product meets airworthiness, noise and emission standards equivalent to the US standards, and the manufacturer submits the appropriate supporting technical data.

TYPE CERTIFICATE DATA SHEET The Type Certificate Data Sheet is the part of the Type Certificate setting forth the limitations prescribed by the applicable airworthiness regulations and any other limitations and information found necessary for type certification.

UTILIZATION, AIRCRAFT The average daily flying hours for an aircraft or a fleet of aircraft. May also be expressed in hours per year or hours per month.

VOR/DME VHF Omnidirectional Range with Distance Measuring Equipment. The primary radio aid today. When tuned to a VOR/DME (frequency range 108.00 – 117.95 MHz) the pilot's VOR indicator can indicate the heading to fly along the radial to the station and by using the DME the aircraft's position on the radial. Using a second VOR for triangulation, a course can be flown without having to fly directly to a station.

FINANCIAL TERMS

APPRAISAL A formal valuation of property made by a competent authority. See special section in this handbook for discussion of types of appraisals.

ASSET-BASED FINANCE Secured asset financing, with credit emphasis on the ownership of, or lien on, such assets as accounts receivable, inventory, machinery and equipment.

BALLOON PAYMENT The final payment, which is substantially larger than the other payments, of an amortized term loan or lease. Less commonly, balloon payments may also occur periodically during a lease term.

BARGAIN PURCHASE OPTION An option given to the lessee to purchase leased equipment at lease expiry for a price which is significantly lower than the expected fair market value of that equipment at the end of the lease.

CAPITAL LEASE A lease in the U.S. is classified as a capital lease if it meets any of the following criteria:

- The lease transfers ownership to the lessee at the end of the lease term.
- The lease contains an option to purchase the property at a bargain price.
- The lease term is equal to 75% or more of the estimated economic life of the property (with exceptions for used property that is already near the end of its useful life).
- The present value of minimum lease rental payments is equal to 90% or more of the fair market value of the leased property.

CHAPTER 7 A chapter of the U.S. Bankruptcy Code which provides the rules whereby a debtor or creditor may petition the court for the appointment of a trustee or receiver to supervise the orderly liquidation of a business.

CHAPTER 11 A chapter of the U.S. Bankruptcy Code which provides the rules whereby a debtor is allowed to file for court protection. Such protection enables the debtor to continue its operations while undergoing reorganization. Chapter 11 also allows a creditor to protect its interests.

DISCOUNTED CASH FLOW A technique for assessing the present value of future payments which takes into account the time value of money.

DRY LEASE Traditionally in aircraft and marine leasing, an agreement that provides financing only for the equipment itself, and does not extend to personnel, maintenance, fuel and provisioning necessary to operate the craft. Corollary in marine leasing is a bare boat charter. See also "wet lease."

INVESTMENT TAX CREDIT (ITC) A provision of the tax code designed to stimulate investment in capital equipment by allowing a percentage of the purchase price to be credited directly against taxes due.

LEVERAGED LEASE Involves at least three parties: lessor, lessee and a lender. The lessor owns the equipment and will generally provide a portion of the purchase price while borrowing the remainder, usually on a non-recourse basis, from the lender. The lessor thereby enhances his ability to purchase and own the asset using the capital of a third party.

NET LEASE A lease which provides that all costs in connection with the use of the equipment are paid by the lessee and are not part of the rental, e.g. taxes, insurance and maintenance are paid directly by the lessee. Note that most capital leases, leveraged leases and direct finance leases are net leases.

OPERATING LEASE For financial accounting purposes, a lease which does not meet the criteria of a capital lease (see separate entry). Also used generally to describe a short-term lease whereby the user can acquire the use of an asset for a fraction of its useful life. It is not common, but the lessor may pay for maintenance and insurance.

OWNER TRUSTEE In a leveraged lease, the party who holds title to the equipment for the benefit of the equity participants. The owner trustee issues trust certificates to the equity participants, maintains the register, acts as the agent for such certificates, and makes appropriate filings to perfect and protect the lenders' interest in the collateral.

PURCHASE OPTION The right to buy leased property at the end of the lease term. In the U.S., if the tax characteristics of a true lease are to be protected, the purchase option may not be at a price less than the asset's fair market value at the time the right is exercised.

RENEWAL OPTION A right whereby the lessee may renew a lease for an additional period after the original termination date. The rent for the renewal period is usually set at a lower rate than in the initial period.

TAX LEASE A single-investor or leveraged lease in which the lessor has satisfied certain Internal Revenue guidelines, retaining the tax benefits (such as investment tax credits and depreciation) associated with ownership. These tax benefits may be passed through to the lessee in the form of lower rental payments. The lease may require special indemnity by the lessee for any of the lessor's benefits lost or subject to recapture.

WET LEASE An operating lease that provides crew, fuel and maintenance services in addition to the aircraft itself.

THE PRINCIPLES OF APPRAISAL PRACTICE

And

CODE OF ETHICS

I.S.T.A.T.

International Society of Transport Aircraft Trading

By

ISTAT Appraisers' Board of Governors

Originated: 4/14/85

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PREFACE

The practice of appraising aircraft to determine current market value has been one which has grown in complexity with the parallel growth in sophistication of the aircraft themselves.

Throughout this period, however, there have been no standards against which to judge the merits of the appraiser or his work. With the values of aircraft climbing above the \$100-million mark and with the added complexities of long-term leasing of aircraft by investment houses on behalf of limited partnerships, there is an increasing demand for standards by which aircraft appraisals and forecasts of future residual values will be conducted.

The International Society of Transport Aircraft Trading has developed and established these standards and a Code of Ethics for the guidance and administration of the appraisal practice of their members.

This booklet has been prepared for the aircraft appraiser for his use and adherence, and also for the clients who engage appraisers as evidence of the Society's commitment to excellence and professionalism.

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Appendix: Annual Ethics Signature Form

1. INTRODUCTION

1.1 Membership Composition of the International Society of Transport Aircraft Trading

The members of ISTAT encompass a variety of interests related to the exchange of new and used airline aircraft, virtually all of which at some time have requirements for aircraft appraisals. These members include aircraft buyers, sellers, brokers, financiers, insurers, manufacturers and operators. The membership also includes professionals who conduct aircraft appraisals.

1.2 Definition of “Appraisal Practice”

The term “appraisal practice” applies to any of the following operations, singly or in combination, such operations being conducted within a framework of general principles of technical procedure and personal conduct:

1. Determination of the fair market value of an aircraft, engine or other property such as spare parts, ground equipment, etc.;
2. Determination of fair market lease rates for aircraft and engines;
3. Forecasting of the future value of an aircraft, engine or other property for some specified point in time or future intervals of time;
4. Determination of the non-monetary benefits that contribute to value and the rendering of judgments as to the age, remaining useful life or time until overhaul;
5. Review of appraisal reports originally prepared by others.

1.3 Purpose of Promulgating the Principles of Appraisal Practice and a Code of Ethics

The Principles of Appraisal Practice and Code of Ethics of the Society (ISTAT) are promulgated to:

1. Inform those who use the services of appraisers what, in the opinion of the Society, constitutes competent and ethical appraisal practice.
2. Serve as a guide to members of ISTAT who conduct appraisals toward achieving their own competency in the practice of appraisal and in adhering to ethical standards.
3. Aid in the accomplishment of the purposes of the Society which include:
 - a) Improvement and development of aircraft appraisal standards and techniques;
 - b) Encouragement of sound professional practices;
 - c) Establishment of criteria of sound performance for use by staffs of appraisers;
 - d) Enforcement of ethical conduct and practice by appraisers who are members of ISTAT.

2. OBJECTIVES OF APPRAISAL WORK

2.1 Various Kinds of Appraisals

An aircraft appraisal is undertaken for one or more of several objectives, such as:

1. To determine the value of the aircraft for sale or lease;
2. To determine present and future aircraft value for loan collateral;
3. To determine future value of aircraft for establishing residual insurance premiums;
4. To determine future value of aircraft as a basis for lease rates;
5. To determine airline fleet values to support equity stock offerings, values in mergers, bankruptcies, etc.;
6. To determine aircraft values as a basis for state and local property taxes;
7. To determine values acceptable to the IRS of contributions to entities such as aviation schools and museums.

2.2 Objective Character of the Results of an Appraisal Undertaking

The primary objective of an aircraft value appraisal is the determination of a numerical result, either as a range or most probable dollar amount of a value, now or at some specified point in the past or future.

The numerical result is objective and unrelated to the desires, wishes or needs of the client who engages the appraiser to perform the work. The amount of this figure is totally independent of what someone desires it to be. All of the principles of the ethics of appraisal stem from this central fact.

3. APPRAISER'S PRIMARY DUTIES AND RESPONSIBILITIES

3.1 Appraiser's Obligation to Determine and Describe the Appropriate Value

Because there are several kinds of value estimates, each of which has a legitimate place at the end of some class of appraisal engagement, it is the appraiser's obligation to ascertain which one of these is pertinent to the particular undertaking.

In meeting this obligation, the appraiser may consider his client's instructions and/or may obtain legal or other professional advice, but the selection of the appropriate or relevant value is the appraiser's sole responsibility.

Also, it is his obligation to explain fully and describe what is meant by the particular value he has determined in order to obviate any misunderstanding and to prevent any unwitting or deliberate misapplication.

3.2 Appraiser's Obligation to Determine Numerical Results to Whatever Degree of Accuracy the Particular Objectives of the Appraisal Necessitate

It is the appraiser's obligation to determine the appropriate and applicable numerical results with as high degrees of accuracy as the particular objectives of the appraisal necessitate.

3.3 Appraiser's Obligation to Avoid Giving a False Numerical Result

The appraiser has every obligation to avoid giving a false appraisal figure. The appraisal value could be false for one of two reasons: (a) because it is a grossly inaccurate, or (b) because it is an estimate of an inappropriate kind of value.

3.4 Appraiser's Obligation to Attain Competency and to Practice Ethically

In order to meet his obligations, the appraiser must be competent in his field. This competency he attains by education, training, study, practice and experience. He must also recognize, understand and abide by those ethical principles that are interwoven with and are an essential part of truly professional practice.

3.5 Professional Character of Appraisal Practice

Appraisers are engaged in a professional activity. A profession is based on an organized body of specific knowledge not possessed by laymen. It is of such a nature that it requires a high degree of intelligence and a considerable expenditure of time and effort to acquire it and to become adept in its application.

An appraiser's client, because he may not have the necessary specialized knowledge himself, puts his trust in the appraiser and relies on him to use his professional knowledge and ability to whatever extent necessary to accomplish the objectives of his work. There is no *caveat emptor* principle involved in the relationship between a professional appraiser and his client.

3.6 Appraiser's Fiduciary Relationship to Third Parties

It frequently happens that an appraisal report is given by the client to third parties for their use. These third parties may or may not be known to the appraiser but, regardless of this fact, they have as much right to rely on the validity and objectivity of the appraiser's findings as does the client. Appraisers recognize their fiduciary responsibility to those parties, other than the client, who make use of their reports.

3.7 Appraiser's Fiduciary Relationship to the Public

Since the general public welfare is often involved in the execution of valuation assignments, the appraiser has an obligation and responsibility to the general public that supersedes his obligation to his client.

This fiduciary relationship to the public is the same as his fiduciary relationship to third parties as already described. It applies to members of the public such as depositors in financial institutions making loans, to taxing authorities, to investment houses using appraisal data to report present and future investment values to their clients, and to taxpayers who are represented in government-guaranteed loans funded with public funds.

4. APPRAISER'S OBLIGATIONS TO HIS CLIENT

The appraiser's primary obligation to his client is to reach complete, accurate and pertinent conclusions and numerical results, regardless of the client's wishes or instructions in this regard. The relationship between client and appraiser is not one of principal and agent. However, the appraiser's obligations to his client go somewhat beyond this primary obligation. These secondary obligations are set forth in the following sections.

4.1 Confidential Character of an Appraisal Assignment

The fact that an appraiser has been employed to make an appraisal is a confidential matter. In some instances, the very fact of employment may be information that a client, whether private or public, prefers for valid reasons to keep confidential. Knowledge by outsiders of the fact of engagement of an appraiser may jeopardize a client's proposed transaction.

Consequently, it is improper for the appraiser to disclose the fact of his engagement, unless the client approves of the disclosure or clearly has no interest in keeping the fact of the engagement confidential; or unless the appraiser is required by the due process of law to disclose the fact of his engagement.

It is not proper for an appraiser to reveal to any third party the amount of his valuation of an aircraft without permission of his client unless required to do so by due process of law.

In the absence of an express agreement to the contrary, the identifiable contents of an appraisal report are the property of the client and ethically cannot be submitted to any professional society as evidence of an appraiser's qualifications nor can they be published in any identifiable form without the client's consent. Moreover, it is unethical for a member of a duly authorized professional review committee to disclose to third parties confidential information or factual data contained in the appraisal report(s) under review.

4.2 Appraiser's Obligation to Give Competent Service

It is not proper for an appraiser to accept an engagement to appraise an aircraft in a category he is not qualified to appraise, unless he fully acquaints his client with the limitations of his qualifications.

4.3 Appraiser's Obligation Relative to Giving Testimony

When an appraiser is engaged by one of the parties in a controversy, it is unethical for the appraiser to suppress any facts, data or opinions which are adverse to the case his client is trying to establish, or to over-emphasize any facts, data, or opinions which are favorable to his client's case; or in any other particulars to become an advocate. It is the appraiser's obligation to present the data, analysis and value without bias, regardless of the effect of such unbiased presentation on his client's case.

4.4 Appraiser's Obligation to Document Appraisal Testimony

When an appraiser accepts employment to make an appraisal, or to testify as to the value of an aircraft before a court of law or other judicial or quasi-judicial body, the appraiser shall have complete documentation on file to substantiate the testimony to be given. Depending on the client's desires, this documentation may or may not include a complete written appraisal report.

4.5 Appraiser's Obligation Relative to Serving More than One Client in the Same Matter

When two or more potential clients seek an appraiser's services with respect to the same aircraft appraisal or related legal action, the appraiser may not properly serve more than one, except with the consent of all parties.

4.6 Agreements and Contracts for Appraisal Services

Although it is preferable to have a written contract between the appraiser and his client, often a clear oral agreement has to suffice. In either case, such agreement should include the objectives and scope of the work, time of delivery of report, and the amount of fees.

5. APPRAISER'S OBLIGATION TO OTHER APPRAISERS AND TO THE SOCIETY

5.1 Protection of the Professional Reputation of Other Appraisers

The appraiser has an obligation to protect the professional reputation of all appraisers who subscribe to and practice in accord with the Principles of Appraisal Practice and Code of Ethics contained herein. The Society declares that it is unethical for an appraiser to injure, or attempt to injure, by false or malicious statements or by innuendo, the professional reputation or prospects of any appraiser.

5.2 Unethical Competitive Conduct

The Society declares that it is unethical conduct for an appraiser to reduce a fee which he has already quoted to a client or a prospective client for a specified appraisal assignment in order to supplant another appraiser after the latter's fee quotation has been made known to him.

The Society declares that it is unethical conduct for an appraiser to supplant, or attempt to supplant, another appraiser after the latter has been engaged to perform a specified appraisal service.

6. APPRAISAL METHODS AND PRACTICES

6.1 Various Kinds of Value

The Society recognizes that different kinds of appraised equipment may have different kinds of value depending on the particular circumstances. Good appraisal practice requires that the appraiser describe in sufficient detail the nature and meaning of the specific value that he is determining.

In order to provide guidance to appraisers and their clients, the Society has developed definitions of certain types of appraisals and appraised values, as well as glossaries of technical and financial terms commonly used in appraisal practice. *To the maximum extent possible, appraisers should conform their usage of these terms to the ISTAT guidelines.* Where the circumstances of a particular appraisal assignment dictate a departure from these guidelines (such as an appraisal in connection with a lease or purchase contract that contains its own definitions), the appraiser's report should clearly state the definitions attached to such terms to preclude any possibility that they could be misconstrued as conforming to the ISTAT guidelines.

6.2 Selection of Appraisal Method

The procedure and method for determining the particular value in question is a matter for the appraiser himself to determine; he cannot be held responsible for the result unless he has a free hand in selecting the process by which the result is to be obtained. However, good appraisal practice requires that the method selected be adequate for the purpose, embrace consideration of all the factors that have a bearing on the value, and be presented in a clear and logical manner.

6.3 Contingent and Limiting Conditions Affecting an Appraisal

In many instances the validity of the appraiser's conclusions as to the value of a subject property is contingent upon the validity of statements, information, and/or data upon which he has relied. In the case of an aircraft, for example, such sources could include the logs and maintenance records.

It is proper for the appraiser to rely upon and use such material provided he states in his report that he has done so, and he does not pass to others the responsibility for matters that are, or should be, within the scope of his own professional knowledge.

Good appraisal practice requires that the appraiser state any other contingent or limiting conditions which affect the appraisal, such as, for example, that the value is contingent upon the completion of certain repairs, overhauls or modifications.

6.4 Hypothetical Appraisals

A hypothetical appraisal is an appraisal based upon assumed conditions which are contrary to fact or may be improbable. There are legitimate uses for some hypothetical appraisals, but it is improper and unethical to issue a hypothetical appraisal report unless: (1) the value is clearly labeled as hypothetical, (2) the purpose for which the appraisal was made is stated, and (3) the conditions which were assumed are set forth.

Examples of typical hypothetical conditions that might be included in an aircraft valuation would be an unusual rise or fall in fuel prices, the imposition of unexpected retirement or retrofit rules, or the presumption of bankruptcies, liquidations or airline mergers that might otherwise seem unlikely.

6.5 Appraisals in which Access to Pertinent Data is Denied

Situations sometimes occur in which data that the appraiser considers pertinent to the making of a valid appraisal are in existence but access to them is denied to the appraiser, either by the client or some other party. In such a case, the appraiser, at his option, may properly decline to carry out the assignment. In the event he considers such data *essential* to the making of a valid appraisal, he may not properly proceed with the assignment.

6.6 Ranges of Value and Reliability Estimates

Some appraisal assignments call for the determination of a probable range of value, either with or without a collateral statement of the most probable figure within that range. Since the appraiser's determination of value cannot, by its very nature, be exact, it is entirely within the scope of good appraisal practice to give a range of values.

7. UNETHICAL AND UNPROFESSIONAL APPRAISAL PRACTICES

The principles included in this section relate to the establishment and maintenance of confidence of clients in the validity of appraisal undertakings. To this end, certain practices are declared by the Society to be unethical and unprofessional.

7.1 Contingent Fees

If an appraiser were to accept an assignment for which the amount of his fee is contingent upon the amount of an award in a property settlement, or a court action where his services are employed, or is contingent upon the amount of a tax reduction obtained by a client where his services are used, or is

contingent upon the consummation of the sale or financing of an aircraft in connection with which his services are used, or is contingent upon his reaching any finding or conclusion specified by his client, then, anyone considering the use of the results of the appraiser's undertakings might well suspect that the results were biased and self-serving, and therefore invalid.

Such suspicion would militate against the establishment and maintenance of trust and confidence in the results of appraisal work generally; therefore, the Society declares that the contracting for or acceptance of contingent fees is unethical and unprofessional.

Also, the Society declares that it is unethical to accept compensation for appraisal services in the form of a commission, rebate, division of brokerage commission, or any similar forms, or to receive or pay finder's or referral fees.

7.2 Percentage Fees

The Society declares that it is unprofessional and unethical for an appraiser to contract to do work for a fixed percentage of a value which he is to determine as part of the assignment.

7.3 Disinterested Appraisals

Anyone using an appraisal made by an appraiser who has an interest or a contemplated future interest in an aircraft being appraised, might well suspect that the report was biased and self-serving and therefore that the findings were invalid. Such suspicion tends to break down trust and confidence in the results of appraisal work generally.

Interests which an appraiser may have in an aircraft which is being appraised include ownership of the subject aircraft, acting or having some expectation of acting as agent in the purchase, sale or financing of the subject aircraft. Such interests are particularly apt to exist if the appraiser, while engaged in professional appraisal practice, is also engaged in a related brokerage business.

The Society declares that, subject to the provision for disclosure given in the following paragraph, it is unethical and unprofessional to accept an assignment to appraise an aircraft in which the appraiser has an interest or a contemplated future interest.

However, if a prospective client, after full disclosure by the appraiser of his existing or contemplated future interest in the subject aircraft, still desires to have that appraiser do the work, the latter may properly accept the engagement provided he discloses the nature and extent of his interest in his appraisal report.

Although the appraiser may have no financial interest in an aircraft he is appraising, if he has a present or contemplated future interest in an aircraft model similar to it, the nature and extent of such interest must be disclosed in advance to the prospective client, as well as in the appraisal report.

7.4 Signature Responsibilities

The user of an appraisal report, before placing reliance upon its conclusions, is entitled to assume that the party signing the report is responsible for the findings, either because he performed the work himself or it was done under his supervision.

In cases where two or more appraisers have been engaged by a single client to make independent appraisals of the same aircraft, the client has the right to expect he will receive opinions which have been reached independently and that he may use them as checks against each other and/or evidence of the range within which the numerical results lie.

The Society declares it is unethical to misrepresent an appraisal by appending the signature of any person who neither did the work himself nor had it done under his supervision. If two or more appraisers have been engaged by a single client to make independent appraisals of the same aircraft, it is unethical for them to collaborate or consult with one another or make use of each other's findings or figures. An appraisal firm or corporation may properly use a corporate signature with the signature of a responsible officer thereof. However, the person who actually did the appraisal for the corporation must sign the corporate appraisal report or the report must acknowledge the person who actually made the appraisal.

7.5 Advocacy

If an appraiser, in the writing of a report or in giving an exposition of it before third parties or in testimony in a court action, suppresses or minimized any facts, data, or opinions which, if fully stated, might militate against the accomplishment of his client's objective, or if he opines or places an improper emphasis on any relevant facts for the purpose of aiding his client in accomplishing his objective, he is, in the opinion of the Society, an advocate. Advocacy, as here described, adversely affects the establishment and maintenance of trust and confidence in the results of a professional appraisal practice and is hereby declared unethical and unprofessional by the Society.

7.6 Unconsidered Opinions and Preliminary Reports

If an appraiser makes a preliminary report without a statement to the effect that it is preliminary and that the figures are subject to change when the final report is completed, there is the possibility that some user of the report, being under the impression that it is a final report, will accord the figures a degree of accuracy and reliability they do not possess. The results of such misplaced confidence could be damaging to the reputation of professional appraisers generally, as well as of the appraiser involved. To obviate this possibility, the Society declares it to be unprofessional practice to omit a proper limiting and qualifying statement in a preliminary report.

7.7 Advertising and Solicitation

It is not unethical to advertise the availability of appraisal services. However, it is unethical to use any inaccurate, misleading, false or deceptive claim, promise or representation in connection with any advertisement.

Self-laudatory advertising, the naming of appraisal clients or showing reports that have been prepared for clients is unethical and unprofessional. It is also unethical to misrepresent in any way one's connection or affiliation with ISTAT or any other organization, or to misrepresent one's background, education, training or expertise. The Society considers such practices to be detrimental to the establishment and maintenance of industry confidence in the results of appraisal work.

7.8 Misuse of Membership Designations

The Constitution and By-Laws of the Society establish three professional grades for appraisers, namely, Appraiser, Senior Appraiser, and Appraiser Fellow. (A Candidate does not hold a professional grade of membership in the Society.) Appraisers may use the designation "Appraiser, International Society of Transport Trading." Only Senior Appraisers may use the designation "ISTAT". Only Appraiser Fellows may use the designation "FISTAT".

8. APPRAISAL REPORTS

Good appraisal practice requires the inclusion of certain specific explanations, descriptions and statements in an appraisal report. Some variation from the guidelines below may be appropriate under certain circumstances or according to specific client desires.

8.1 Date of the Report

The date is essential because market values and market circumstances can vary over time or with the passage of events. Thus the appraiser's opinions need to be understood in the context of the time when those opinions are rendered.

8.2 Identification of the Client

The appraisal report should identify the client, either explicitly within the report, or, in the case of a letter report the identification could be implicit in the addressee section of the letter.

8.3 Description of the Property

The aircraft, engine, spare parts or other property being appraised should be adequately described in the report. Main descriptive elements should include, but not be limited to:

1. Identification of the aircraft, engine or other equipment wherever possible by serial number, specific model number, and date of manufacture (if deemed significant);
2. Legal rights including any restrictions encompassed in the ownership where such are not obvious but deemed significant for the purpose of the appraisal;
3. Physical condition of the aircraft, engine, or other equipment; and
4. Maintenance program limits, time status of the aircraft, engine or item, and a statement as to whether this status was assumed, specified by the client, or determined by the appraiser's research.
5. Major points about its configuration, capabilities or other characteristics that may be relevant to determining its value.

The report should clearly state whether the appraiser personally inspected the subject property or had it inspected by someone acting under his direction. If the property was not inspected, the report should so state.

8.4 Statement of the Type and Objectives of the Appraisal

Unless it is otherwise evident from the content of the report, it is required that the appraisal report include a statement of the type of appraisal, such as desktop appraisal, extended desktop appraisal, full appraisal, comprehensive appraisal, financial appraisal, and hypothetical appraisal. See also Section 2.1 above for examples of various kinds of appraisal objectives.

If an appraisal is a hypothetical one, it should be labeled as hypothetical (see Section 6.4). The reason a hypothetical appraisal was made should be stated, and the assumed hypothetical conditions should be clearly set forth.

It is required that an appraisal report include a statement as to the date to which the fair market value estimate, cost estimate, or forecast of value applies. This may or may not be the date of the report.

8.5.1 Definitions

Keeping in mind that the report may be read by laymen or others who may not be completely familiar with appraisal terms, the appraisal report should include definitions of any such terms. In particular, it is required that the meaning attached by the appraiser to any specific kind of value or estimated cost which is the objective of the appraisal be described and explained in the appraisal report.

The currency units of measure attached to any value and the date in which those units are denominated (such as mid-1997 US dollars) should be clearly indicated.

8.6 Statement of Contingent and Limiting Conditions to Which the Appraisal Findings Are Subject

It is required that statements, information, and/or data, which were obtained by the appraiser, the validity of which affects the appraisal findings, be summarized or stated in full in the appraisal report. Sources of such information should be identified in the report to permit users of the appraisal report to verify such data.

When determining current market values, the report should discuss the market condition if that is not otherwise apparent within the appraisal report. In a complex appraisal containing past, present and/or future value opinions, it may be necessary to describe market conditions associated with each value. In some circumstances, the market may be characterized in just a few words, whereas in a detailed report the appraiser might include an expanded discussion. For example, the appraiser may feel it is necessary to provide his interpretation of events affecting his opinion, such as his view that values are recovering from a cyclic low, or collapsing from a temporary oversupply, or holding firm in spite of certain other developments. If the client has requested a value opinion for conditions such as a "soft" market or a "worst case scenario" this should be clearly stated along with the effects this could have on the value opinion.

If a preliminary appraisal report is issued in which the figures are subject to refinement or change, it is required that the report be labeled preliminary and that the limitations on its use be clearly stated (see Section 7.6).

8.7 Description and Explanation in the Appraisal Report of the Appraisal Method Used

It is required that the method selected by the appraiser as applicable to the subject appraisal undertaking be described and explained in the appraisal report.

If the value opinions in the report pertain to a time period other than the date of the appraisal, such as a review of historical values, projections of future values, or value trends over time, the treatment of inflation and deflation factors should be clearly set forth. If a historical value opinion is for a single moment in time, explicit inflation factors may not be required, but it should be clearly stated that the value is expressed in then-current dollars or in dollars corrected to the report date, as the case may be.

If the report includes analyses such as the present value of a stream of lease payments or the present worth of a future residual value, the discount rate or interest rate should be stated, along with the basis for selecting that rate.

8.8 Statement of the Appraiser's Disinterestedness

It is required that the appraiser include a statement in his appraisal report that he has no present or contemplated interest in the subject aircraft, or any other interest which might tend to prevent his making a fair and unbiased appraisal or, if he does have such an interest, to set forth fully the nature and extent of that interest (see also Section 7.3).

8.9 Signature to Appraisal Reports

It is required that the party who makes the appraisal, or who has the appraisal conducted under his supervision, sign the appraisal report (see also Section 7.4).

8.10 Disclaimer

Though not an essential element of an appraisal report, it is recommended that the report contain qualifying disclaimers that the appraiser and his legal advisor deem appropriate, such as the fact that the opinions are based upon data provided by others and upon conditions that are subject to change, and that the appraiser assumes no liability for actions taken or not taken by the client or any other parties who may receive the report.

9. APPRAISAL REVIEWS

9.1 The Review Process

In reviewing an appraisal and reporting the results of that review, an appraiser may be asked to form an opinion as to the adequacy, completeness, consistency, appropriateness and/or conclusions of the report under review. In reporting the findings of his review to his client, the appraiser must clearly disclose the nature of the review process as well as the opinions so formed.

9.2 Review Report

The function of reviewing an appraisal requires the preparation of a separate report or a file memorandum by the appraiser performing the review, setting forth the results of the review process. Commonly the review appraiser may not have first-hand knowledge of the subject property, and if so, his review report should so state.

9.3 Review Appraisal Tasks

Depending on the client's needs and the purpose of the review, the tasks undertaken by the review appraiser and described in his report should include the first two items below, plus any or all of the remaining items.

1. Identify the report under review, the subject property, the date of the appraisal report and the date of the review.
2. Identify the extent of the review process.
3. Form an opinion as to the completeness and adequacy of the appraisal report, including data and the propriety of any adjustments to the data, recognizing the context of market conditions as of the effective date of the report being reviewed.

4. Form an opinion as to the appropriateness of the appraisal methodology and technique used, and explain the reasons for any disagreement.
5. Form an opinion as to whether the analyses, opinions and conclusions in the report under review are appropriate and reasonable, and set forth the reasons for any disagreement. If the review appraiser finds an error due to omission or commission in the original appraisal report, it is entirely appropriate for the review appraiser to form opinions at variance with the original report.

9.4 Additional or New Information

The review appraiser may have additional information that was not available to the original appraiser, possibly because of the occurrence of subsequent events or the release of information not available at the time of the original report. In fulfilling his obligations to his client, it is appropriate for the review appraiser to use this information, but his report should acknowledge that this information was not available to the original appraiser.

9.5 Confidential Nature of Appraisal Reviews

Section 4.1 above pertaining to the confidential character of an appraisal assignment applies with equal force to an appraisal review assignment.

APPENDIX

ANNUAL AFFIRMATION OF PROFESSIONAL ETHICS STANDARDS

Many firms require management personnel to sign a form annually, stating they have conducted their business in accordance with the ethical standards promulgated by the company. Whether they are valuing high-rise office buildings or an aircraft, appraisers are relied upon to give their opinion unrelated to the wishes or needs of the client. Bearing in mind that the client, and in all likelihood third parties, are committing large sums of money on the appraiser's conclusions, there must be absolutely no conflict of interest on the part of the appraiser in conducting his or her professional work.

In affirming that you have adhered to the Code of Ethics, as promulgated in the International Appraisers' Program (IAP) Handbook, and will continue to do so; it is required that you sign a form, similar to that on the following page; this form will be distributed at the ISTAT annual conference during the appraisers' business meeting. For those who are absent, a copy will be emailed for signature and returned by standard mail to the Administrative Director of the IAP. Alternatively, it may be returned by email, provided it has an accurate facsimile of the signer's signature.

Failure to sign the form will require the Appraisers' Board of Governors to vote on a proposal to withdraw the Appraiser's accreditation as an ISTAT Certified Appraiser.

Annual ISTAT certified appraiser affirmation of ethical standards

- As an ISTAT Certified Appraiser I recognize that the practice of aircraft value appraisal involves an extraordinary level of trust of the appraiser by his client and the industry in general.
- In my practice of aircraft appraisal I will abide by all applicable laws, rules and regulations, and the ISTAT Principles of Appraisal Practice and Code of Ethics.
- I will be truthful in all reports, communications and records.
- I will promptly report to the ISTAT International Appraisal Program Board of Governors any illegal or unethical appraisal practice that I observe.
- I will provide unbiased, disinterested opinions of value that will bear my signature and for which I will take responsibility.
- I will not participate in appraisals that involve contingency or percentage fees, or advocacy of any special interests.
- My opinions of values will clearly state any special or qualifying assumptions, conditions or any degree of self interest.
- I will use only the approved ISTAT certified appraiser designation for which I am qualified.
- I will not engage in deceptive advertisement or solicitation.
- I will avoid conflicts of interest, whether actual or perceived.
- I recognize that my conduct can reflect on my fellow ISTAT certified appraisers and the ISTAT International Appraisers' Program, and I will avoid any activity that brings discredit upon myself, my profession as an appraiser or ISTAT.

Date:

Name:

ISTAT certification:

Signature: