Trinidad and Tobago
Civil Aviation Authority

TTCAA Advisory Circular

Subject: AIRLINE TRANSPORT PILOT LICENCE KNOWLEDGE TESTS
TTCAA Advisory Circular TAC- PEL075
Date: 06/10/02

PURPOSE

1. (1) The purpose of this TTCAA Advisory Circular (TAC) is to provide guidance for applicants preparing to take Private Pilot Knowledge Tests. Appendices provide subject matter outline, reference material, and sample questions, with subject matter knowledge codes.

(2) The Trinidad and Tobago Civil Aviation Regulations (TTCARs) can be obtained from the Trinidad and Tobago Government printery, Victoria Avenue Port-Of-Spain Trinidad. TTCAR No. 1 covers the requirements for personnel licensing.

(3) This TAC can be purchased from the Tobago Civil Aviation Authority, P.O. Box 2163, National Mail Centre, Golden Grove Road, Piarco, Republic of Trinidad and Tobago or downloaded from the TTCAA website at <http://www.caa.gov.tt>.

(4) Comments and/or questions regarding this TAC should be sent to Trinidad and Tobago Civil Aviation Authority, P.O. Box 2163, National Mail Centre, Golden Grove Road, Piarco, Republic of Trinidad and Tobago.

INTRODUCTION

2. (1) What is required to become a skilled and effective airline transport pilot? Although some individuals possess more knowledge and skills than others, no one is a natural-born pilot. Competent pilots become so through study, training, and experience.

(2) This knowledge test guide will answer most questions about taking the airline transport pilot knowledge test by covering the following areas: knowledge test eligibility requirements; knowledge areas on the tests; descriptions of the tests; process for taking a knowledge test; validity of Airman Test Reports; use of test aids and materials; cheating or other unauthorized conduct; retesting procedures; and obtaining training and testing publications and general information.

(3) This guide will help applicants in preparing to take one or all of the following tests:

(a) Airline Transport Pilot—Aeroplane;

(b) Airline Transport Pilot—Helicopter (in development);

(c) Airline Transport Pilot—Aeroplane Validation;

(d) Airline Transport Pilot—Aeroplane Conversion.

(4) This guide is not offered as an easy way to obtain the necessary information for passing the knowledge tests. Rather, the intent of this guide is to define and narrow the field of study to the required knowledge areas included in the tests.

(5) The Trinidad and Tobago Civil Aviation Authority (TTCAA) airman knowledge tests are a very effective instrument for aviation safety and regulatory compliance. However, these tests can only sample the vast amount of knowledge every pilot needs to operate safely in an ever increasingly complex airspace system.

KNOWLEDGE TEST ELIGIBILITY REQUIREMENTS

3. Individuals pursuing an airline transport pilot licence should review: Trinidad and Tobago Civil Aviation Regulations 2004 No. 1 Part II Regulation 49 – Airline Transport Pilot Licence General Requirements, TTCAR No 1 Part II Regulation 54 – Conversion of an Airline Transport Pilot Licence from another contracting state and TTCAR No. 1 Part II Regulation 70 – Validation of a Foreign Pilot Licence. The applicant for an airline transport pilot licence knowledge test must be at least 19 years old and have a TTCAA Class 1 medical certificate.

KNOWLEDGE AREAS ON THE TESTS

4. (1) Airline transport pilot tests are comprehensive because they must test the applicant's knowledge in many subject areas.

(2) Applicant's pursuing an airline transport pilot licence or added rating should review TTCAR Part II, Regulation 40 - Knowledge areas, for the knowledge areas on the tests.

DESCRIPTIONS OF THE TESTS

5. (1) All test questions are the objective, multiple-choice type. Each question can be correctly answered by the selection of a single response. Each test question is independent of other questions; therefore, a correct response to one does not depend upon, or influence, the correct response to another. **The minimum passing score is 75 percent.**

(2) The following tests each contain **80 questions**, and applicants are allowed a **maximum of 3.0 hours** to complete each test.

(a) Airline Transport Pilot—Aeroplane;

(b) Airline Transport Pilot—Helicopter (in development);

(c) Airline Transport Pilot – Powered Lift (in development).

(3) The following tests each contain **50 questions**, and applicants are allowed a **maximum of 2.0 hours** to complete each test.

(a) Airline Transport Pilot—Aeroplane Validation;

(b) Airline Transport Pilot—Aeroplane Conversion.

(4) Communication between individuals through the use of words is a complicated process. In addition to being an exercise in the application and use of aeronautical knowledge, a knowledge test is also an exercise in communication since it involves the use of the written language. Since the tests involve written

rather than spoken words, communication between the test writer and the person being tested may become a difficult matter if care is not exercised by both parties. Consequently, considerable effort is expended to write each question in a clear, precise manner. Test applicants should be sure to carefully read the instructions given with each test, as well as the statements in each test item.

(5) When taking a test, keep the following points in mind:

(a) Answer each question in accordance with the latest regulations and guidance publications;

(b) Read each question carefully before looking at the possible answers. Test applicants should clearly understand the problem before attempting to solve it;

(c) After formulating an answer, determine which choice corresponds with that answer. The answer chosen should completely resolve the problem;

(d) From the answers given, it may appear that there is more than one possible answer; however, there is only one answer that is correct and complete. The other answers are either incomplete, erroneous, or represent common misconceptions;

(e) If a certain question is difficult, it is best to mark it for review and proceed to the next question. After answering the less difficult questions, return to those marked for review and answer them. The review marking procedure will be explained to test applicants prior to starting the test. Although the computer should alert test applicant' to unanswered questions, test applicants should make sure every question has an answer recorded. This procedure will enable test applicants to use the available time to maximum advantage;

(f) When solving a calculation problem, the answer closest to the applicant's solution should be selected. The problem has been checked with various types of calculators; therefore, if the problem has been solved correctly, the applicant's answer will be closer to the correct answer than any of the other choices.

PROCESS FOR TAKING A KNOWLEDGE TEST

6. (1) The first step in the process of taking a knowledge test is to contact the TTCAA office. They can provide applicants with information relating to knowledge test prerequisites, required authorizations and endorsements, and where applicants can appear to take computerized knowledge tests and the appropriate fees involved. In addition applicants might want to visit the TTCAA website at http://www.caa.gov.tt.

(2) The second step in the process of taking a knowledge test is for the applicant to receive an endorsement from an authorized instructor or Aviation Training Organization that the applicant has completed the required training and is ready to take the knowledge test.

(3) Acceptable forms of endorsement are:

(a) A certificate of graduation or a statement of accomplishment certifying the satisfactory completion of the ground school portion of a course for the certificate or rating sought. The certificate or statement may be issued by an approved Aviation Training Organization;

(b) A written statement or logbook endorsement from an authorized ground or flight instructor certifying that the applicant has completed an applicable ground training or home study course and is prepared to take the knowledge test;

(c) A failed Airman Test Report, passing Airman Test Report, or expired Airman Test Report (pass or fail), provided that the airman still has the original Airman Test Report in his/her possession;

(d) An "expired test/credit" letter issued by the TTCAA (in lieu of a duplicate Airman Knowledge Test Report).

(4) The third step in the process of taking a knowledge test is for the applicant to receive written authorization from TTCAA to take the knowledge test.

(5) The fourth step in taking a knowledge test is to proceed to the TTCAA computer knowledge test centre. An applicant for a knowledge test must provide proper identification. Testing centre personnel will not begin the test until the test applicant's identification is verified.

(6) Upon completion of the knowledge test, each applicant will receive their own Airman Test Report, showing their test score with an embossed seal to authenticate the validity of the document.

(7) The Airman Test Report lists the subject matter areas for questions answered incorrectly. The total number of subject matter knowledge areas shown on the Airman Test Report is not necessarily an indication of the total number of questions answered incorrectly.

(8) The Appendices of this Knowledge Test Guide contains a list of reference materials for applicants to study during their training for the Airline Transport Pilot. The questions on the knowledge test will come from these reference materials. TTCAA Advisory Circular TAC - xxx, Subject Matter Codes for Airman Knowledge Testing, contains subject matter knowledge codes for airman knowledge testing. Applicants should match the subject matter knowledge codes on their Airman Test Report to these codes to review their areas of deficiency.

(9) A list of reference materials has been prepared by TTCAA to establish specific references for all knowledge standards and is to be used when preparing for an airman knowledge test. The list of reference materials is contained in the Appendix to this Knowledge Test Guide.

(10) An applicant's instructor is required to provide instruction on each of the knowledge areas listed on the Airman Test Report and to complete an endorsement of this instruction. The Airman Test Report must be presented to the flight test examiner prior to taking the skill test. During the oral portion of the flight test, the flight test examiner is required to evaluate the noted areas of deficiency.

(11) Applicants requiring a duplicate Airman Test Report due to loss or destruction of the original, should send a signed request to the Trinidad and Tobago Civil Aviation Authority, P.O. Box 2163, National Mail Centre, Golden Grove Road, Piarco, Republic of Trinidad and Tobago.

VALIDITY OF AIRMAN TEST REPORTS

7. Airman Test Reports for the Airline Transport Pilot licence are valid for 24 calendar months. The applicant should plan to complete the skill test during the 24 calendar month validity period or 7 year period provided that the applicant is, and has been continuously employed as a flight crew member by a certificate holder under Part 9 at the time of the ATP skill test. If the Airman Test Report expires before completion of the skill test, the applicant must retake the knowledge test.

USE OF TEST AIDS AND MATERIALS

8. Knowledge test applicants may use aids, reference materials, and test materials within the guidelines listed below. All models of aviation-oriented calculators may be used, including small electronic calculators that perform only arithmetic functions (add, subtract, multiply, and divide). Simple programmable memories, which allow addition to, subtraction from, or retrieval of one number from the memory, are permissible. Also, simple functions, such as square root and percent keys are permissible. The following guidelines apply:

(a) Applicants may use any reference materials provided with the test. In addition, applicants may use scales, straightedges, protractors, plotters, navigation computers, log sheets, holding pattern entry aids, and electronic or mechanical calculators that are directly related to the test;

(b) Manufacturers permanently inscribed instructions on the front and back of such aids, e.g., formulas, conversions, regulations, signals, weather data, holding pattern diagrams, frequencies, weight and balance formulas, and air traffic control procedures are permissible;

(c) TTCAA personnel may provide a calculator to applicants and/or deny use of the applicant's personal calculator based on the following limitations:

(i) Prior to, and upon completion of the test, while in the presence of the proctor, applicants must actuate the ON/OFF switch and perform any other function that ensures erasure of any data stored in memory circuits, including removal of batteries;

(ii) The use of electronic calculators incorporating permanent or continuous type memory circuits without erasure capability is prohibited. The test examiner may refuse the use of the applicant's calculator when unable to determine the calculator's erasure capability;

(iii) Printouts of data must be surrendered at the completion of the test if the calculator incorporates this design feature;

(iv) The use of magnetic cards, magnetic tapes, modules, computer chips, or any other device upon which pre-written programs or information related to the test can be stored and retrieved is prohibited;

(v) Applicants are not permitted to use any booklet or manual containing instructions related to use of test aids;

(d) Dictionaries are not permitted in the testing area;

(e) The TTCAA test examiner makes the final determination relating to test materials and personal possessions applicants may take into the testing area.

CHEATING OR OTHER UNAUTHORIZED CONDUCT

9. Computerized knowledge testing must be carried out in accordance with the strictest security procedures to avoid test compromise. The TTCAA Test Examiner will terminate a test at any time that he/she suspects that a cheating incident has occurred. A TTCAA investigation will then be conducted. If the investigation determines that cheating or unauthorized conduct has occurred, then any airman licence, certificate, or rating that the applicant holds may be revoked, and the applicant will be prohibited for 1 year from applying for or taking any test for a licence, certificate or rating under TTCAR No. 1 Regulation 13.

RETESTING PROCEDURES

10. (1) Applicants who receive a grade lower than 75 percent and who wish to retest must present the following to TTCAA testing centre personnel when appearing for the purpose of retesting:

(a) A failed Airman Test Report;

(b) A written endorsement from an authorized instructor certifying that additional instruction has been given, and the instructor finds the applicant competent to pass the test;

(c) A written authorization from TTCAA to retake the test.

(2) Applicants possessing an Airman Test Report with a score of 75 percent or higher who decide to retake the test in anticipation of a better score, may retake the test after 30 days from the date their last test was taken. The TTCAA will not allow applicants to retake a passed test before the 30-day period has lapsed. Prior to retesting, applicants will be required to surrender their current Airman Test Report to the test proctor. The last test taken will reflect the official final score.

OBTAINING TRAINING AND TESTING PUBLICATIONS AND GENERAL INFORMATION

11. Most of the current TTCAA airman training and testing publications can be obtained in electronic format from TTCAA at the TTCAA website at <http://www.caa.gov.tt>.

AIRMAN KNOWLEDGE TEST ITEMS

12. Sample questions are contained in the appendix to this test guide and are representative of questions for airman knowledge tests and their corresponding subject matter knowledge codes. These will help airmen become familiar with similar questions on the airman knowledge tests. The knowledge test is not designed to intimidate any prospective airman; it is designed to measure the level of competency required to receive a TTCAA licence. The list of reference materials contained in the appendix to this test guide is provided to ensure that instructors and students are able to determine the importance of the subject matter to be taught and learned.

COMPUTER TESTING SUPPLEMENTS

13. The computer testing supplements contain the graphics, legends, and maps that are needed to successfully respond to certain knowledge test items. These supplements will be provided by TTCAA test centre personnel during the airman knowledge test.

KNOWLEDGE TEST GUIDES

14. The knowledge test guides describe the knowledge testing policy and procedures for each licence area.

OTHER COMPUTER TESTING INFORMATION

15. Other computer testing information provides specific test information, such as test name, test code (three-digit test identifiers), number of questions, and the time (hours) allotted for each knowledge test. The test identifiers will assist airmen in selecting the proper test for the licence/rating being sought.

SKILL TEST STANDARDS

16. The skill test standards outline the knowledge and skill requirements for each airman licence and rating. The references listed in each task of the skill test standards indicate the specific publications used to develop the skill standards. The ability to issue immediate changes prior to publishing revised printed copies ensures the skill test standards are always accurate and usable.

SUBJECT MATTER REFERENCE/KNOWLEDGE CODES

17. The appendices of this guide contain the listings of reference materials and sample test questions with related subject matter knowledge codes used for airman knowledge testing. The listings of reference materials and subject matter knowledge codes have been prepared by the Trinidad and Tobago Civil Authority (TTCAA) to establish specific references for all knowledge standards. The listings contain reference materials to be used when preparing for all airman knowledge tests. The subject matter knowledge codes contained in TTCAA Advisory Circular TAC - xxx, should be referred to when reviewing areas of deficiency on airman knowledge test reports.

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Director General of Civil Aviation

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APPENDIX A

AIRLINE TRANSPORT PILOT – AEROPLANE (ATP)

SUBJECT MATTER OUTLINE

The following outlines the major topics and underlying content areas on the Airline Transport Pilot – Aeroplane knowledge test.

1. Air law:

    (a) rules and regulations relevant to the holder of an ATPL;
    (b) rules of the air;
    (c) appropriate air traffic services practices and procedures;

2. Aircraft general knowledge:

    (a) general characteristics and limitations of electrical, hydraulic, pressurization and other aircraft systems;
    (b) flight control systems, including autopilot and stability augmentation;
    (c) principles of operation, handling procedures and operating limitations of aircraft powerplants;
    (d) effects of atmospheric conditions on engine performance;
    (e) relevant operational information from the flight manual or other appropriate document;
    (f) operating procedures and limitations of appropriate aircraft;
    (g) effects of atmospheric conditions on aircraft performance in accordance with the relevant operational information from the flight manual;
    (h) use and serviceability checks of equipment and systems of the relevant category of aircraft;
    (i) flight instruments;
    (j) compasses, turning and acceleration errors;
    (k) gyroscopic instruments, operational limits and precession effects;
    (l) practices and procedures in the event of malfunctions of various flight instruments and electronic display units;
    (m) maintenance procedures for airframes, systems and powerplants of appropriate aircraft;

3. Flight performance and planning:

    (a) effects of loading and weight distribution on aircraft handling, flight characteristics and performance;
    (b) weight and balance calculations;
    (c) use and practical application of take-off, landing and other performance data, including procedures for cruise control;
    (d) pre-flight and en-route operational flight planning;
    (e) preparation and filing of air traffic services flight plans; appropriate air traffic services procedures;
    (f) altimeter setting procedures;

APPENDIX A

AIRLINE TRANSPORT PILOT – AEROPLANE (ATP)

SUBJECT MATTER OUTLINE

4. Human performance:

   (a) human performance relevant to the appropriate aircraft category;
   (b) principles of threat and error management;

5. Meteorology:

   (a) interpretation and application of aeronautical meteorological reports, charts and forecasts;
   (b) codes and abbreviations;
   (c) use of, and procedures for obtaining, meteorological information, pre-flight and in-flight;
   (d) altimetry;
   (e) aeronautical meteorology;
   (f) climatology of relevant areas in respect of the elements having an effect upon aviation;
   (g) the movement of pressure systems;
   (h) the structure of fronts, and the origin and characteristics of significant weather phenomena which affect take-off, en-route and landing conditions;
   (i) causes, recognition and effects of icing;
   (j) frontal zone penetration procedures;
   (k) hazardous weather avoidance;
   (l) in the case of aeroplane and powered-lift, practical high altitude meteorology, including interpretation and use of weather reports, charts and forecasts;
   (m) jet streams;

6. Navigation:

   (a) air navigation, including the use of aeronautical charts, radio navigation aids and area navigation systems;
   (b) specific navigation requirements for long-range flights;
   (c) use, limitation and serviceability of avionics and instruments necessary for the control and navigation of aircraft;
   (d) use, accuracy and reliability of navigation systems used in departure, en-route, approach and landing phases of flight;
   (e) identification of radio navigation aids;
   (f) principles and characteristics of self-contained and external-referenced navigation systems; operation of airborne equipment;

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AIRLINE TRANSPORT PILOT – AEROPLANE (ATP)

SUBJECT MATTER OUTLINE

7. Operation procedures:

   (a) Application of threat and error management to operational performance;
   (b) interpretation and use of aeronautical documentation such as AIP, NOTAM, aeronautical codes and abbreviations;
   (c) precautionary and emergency procedures;
   (d) safety practices;
   (e) operational procedures for carriage of freight and dangerous goods;
   (f) requirements and practices for safety briefing to passengers, including precautions to be observed when embarking and disembarking from aircraft;
   (g) safety procedures, associated with flight under VFR;

8. Principles of flight:

   (a) principles of flight relating to the appropriate aircraft category;

9. Radiotelephony:

   (a) Communication procedures and phraseology;
   (b) action to be taken in case of communication failure;

APPENDIX A

AIRLINE TRANSPORT PILOT – AEROPLANE (ATP)

SAMPLE TEST QUESTIONS AND ANSWERS

1. What is the effect on total drag of an aircraft if the airspeed decreases in level flight below that speed for maximum L/D?

A—Drag increases because of increased parasite drag.
B—Drag decreases because of lower induced drag.
C—Drag increases because of increased induced drag.

Answer C—Subject Matter Knowledge Code: R76.

2. (*Refer to appendix 2, figure 124.) A pilot receives this ATC clearance:

'...CLEARED TO THE ABC VORTAC. HOLD SOUTH ON THE ONE EIGHT ZERO RADIAL...'

What is the recommended procedure to enter the holding pattern?

A—Teardrop only.
B—Direct only.
C—Parallel only.

Answer A—Subject Matter Knowledge Code: L55.

3. What is the advantage of HIRL or MIRL on an IFR runway as compared to a VFR runway?

A—Lights are closer together and easily distinguished from surrounding lights.
B—Alternate red and white lights replace the white on the last 3,000 feet of runway for a caution zone.
C—Amber lights replace white on the last 2,000 feet of runway for a caution zone.

Answer C—Subject Matter Knowledge Code: P49.

4. (*Refer to appendix 2, figure 192.) On the airway J10 between OBH and LBF, the MAA is 41,000 feet. What is the MAA on J197 between FSD and OBH?

A—43,000 feet.
B—60,000 feet.
C—45,000 feet.

Answer C—Subject Matter Knowledge Code: F13.

APPENDIX A

AIRLINE TRANSPORT PILOT – AEROPLANE (ATP)

SAMPLE TEST QUESTIONS AND ANSWERS

5. Which component associated with the ILS is identified by the first two letters of the localizer identification group?

A—Outer compass locator.
B—Middle compass locator.
C—Inner marker.

Answer A—Subject Matter Knowledge Code: N62.

6. As outside air pressure decreases, thrust output will

A—remain the same since compression of inlet air will compensate for any decrease in air pressure.
B—increase due to greater efficiency of jet aircraft in thin air.
C—decrease due to higher density altitude.

Answer C—Subject Matter Knowledge Code: C17.

7. What is the maximum allowable weight that may be carried on a pallet which has the dimensions of 36 X 48 inches?

Floor load limit - 169 lb/sq ft
Pallet weight - 47 lb
Tiedown devices - 33 lb

A—1,981.0 pounds.
B—1,995.0 pounds.
C—1,948.0 pounds.

Answer C—Subject Matter Knowledge Code: H78.

8. (*Refer to appendix 2, figures 142 and 143.) To which aircraft position does HSI presentation `F` correspond?

A—14.
B—10.
C—16.

Answer C—Subject Matter Knowledge Code: N60.

APPENDIX A

AIRLINE TRANSPORT PILOT – AEROPLANE (ATP)

SAMPLE TEST QUESTIONS AND ANSWERS

9. The pilot-in-command (PIC) shall ensure that all flight crew members, when engaged in performing duties essential to the safe operation of an aircraft in flight, use breathing oxygen continuously at cabin altitudes exceeding

A—10,000 feet for a period in excess of 30 minutes and if the cabin altitude exceeds 15,000 feet.
B—13,000 feet for a period in excess of 30 minutes and if the cabin altitude exceeds 14,000 feet.
C—10,000 feet for a period in excess of 30 minutes and if the cabin altitude exceeds 13,000 feet.

Answer C—Subject Matter Knowledge Code: B69.

10. A flight release/operational flight plan must contain or have attached to it

A—weather information for the complete flight, and a crew and passenger list.
B—minimum fuel supply and the latest weather information for the complete flight.
C—flight or trip number, weight and balance data.

Answer B—Subject Matter Knowledge Code: B105.

11. For flights above which cabin altitude is oxygen required for all passengers during the entire duration at those altitudes?

A—14,000 feet.
B—16,000 feet.
C—15,000 feet.

Answer C—Subject Matter Knowledge Code: B99.

12. (*Refer to appendix 2, figure 98, 99, 100, and 102.) Determine the TAS required to arrive at CUGAR, 29 minutes after level-off.

A—285 knots.
B—295 knots.
C—290 knots.

Answer A—Subject Matter Knowledge Code: H41.

13. For charter flights in aircraft less than 5,700 kg, the most allowable flight hours in 7 consecutive days is.

A—30 hours.
B—32 hours.
C—34 hours.

Answer C—Subject Matter Knowledge Code: B97.

APPENDIX A

AIRLINE TRANSPORT PILOT – AEROPLANE (ATP)

SAMPLE TEST QUESTIONS AND ANSWERS

14. (*Refer to appendix 2, figure 146.) What method was used to obtain the METAR at Tyler (KTYR) at 1753Z?

A—Automated Surface Observing System (ASOS), having a precipitation discriminator.
B—Automated Weather Observing System (AWOS), without a precipitation discriminator.
C—Automatic Meteorological Observing Station (AMOS), with a precipitation discriminator.

Answer A—Subject Matter Knowledge Code: M64.

15. ([1]*Refer to appendix 2, figure 13.) Given the following conditions, what is the takeoff distance over a 50-foot obstacle?

Pressure altitude	**6,000 ft**
Temperature (OAT)	**+35 °C**
Weight	**14,500 lb**
Wind component	**10 kts HW**
Ice vanes	**Retracted**

A—2,600 feet.
B—4,150 feet.
C—4,550 feet.

Answer B—Subject Matter Knowledge Code: H11.

[1] See Appendix 4 for figures.

APPENDIX A

AIRLINE TRANSPORT PILOT – AEROPLANE (ATP)
AIRLINE TRANSPORT PILOT – AEROPLANE VALIDATION (AVL)
AIRLINE TRANSPORT PILOT – AEROPLANE CONVERSION (ACL)

LIST OF REFERENCE MATERIALS

The publications listed below contain study material applicants need to be familiar with when preparing for Airline Transport Pilot knowledge tests. Most of these publications can be purchased from Trinidad and Tobago Civil Aviation Authority, P.O. Box 2163, National Mail Centre, Golden Grove Road, Piarco, Republic of Trinidad and Tobago or be downloaded from the TTCAA web site at http://www.caa.gov.tt ICAO publications can be purchased from ICAO at: http://www.icao.int. The latest revision of the listed references should be requested.

(1) Trinidad and Tobago Civil Aviation Regulations (TTCAR), in particular:

(a) TTCAR No. 1—General Application and Personnel Licensing Regulations.

(b) TTCAR No. 2 – Operations Regulations

(c) TTCAR No. 5 – Airworthiness Regulations

(d) TTCAR No. 7 – Instruments and Equipment Regulations

(2) ICAO Annexes: 3, 10 Volume II, 11 and 14 (pertinent parts)

(3) ICAO Document 4444: General provisions, Aero Control service, Approach control service, Aerodrome control service, and Flight information and alerting service.

(4) Aeronautical Information Publication (AIP) Eastern Caribbean

(5) Sectional Aeronautical Chart

(6) Airport/Facility Directory

(7) FAA-H-8083-25—Pilot's Handbook of Aeronautical Knowledge (adopted in cooperation with FAA)

(8) FAA-H-8083-3—Airplane Flying Handbook (adopted in cooperation with FAA)

(9) FAA-H-8083-1—Aircraft Weight and Balance (adopted in cooperation with FAA)

(10) FAA- H-8083-23—Seaplane (adopted in cooperation with FAA)

APPENDIX B

AIRLINE TRANSPORT PILOT – AEROPLANE VALIDATION (AVL)
AIRLINE TRANSPORT PILOT – AEROPLANE CONVERSION (ACL)

SUBJECT MATTER OUTLINE

The following outlines the major topics and underlying content areas on the Airline Transport Pilot – Aeroplane Validation and Conversion knowledge tests.

1. Air law:

   (a) rules and regulations relevant to the holder of an ATPL;
   (b) rules of the air;
   (c) appropriate air traffic services practices and procedures;

2. Meteorology:

   (a) interpretation and application of aeronautical meteorological reports, charts and forecasts;
   (b) codes and abbreviations;
   (c) use of, and procedures for obtaining, meteorological information, pre-flight and in-flight;
   (d) altimetry;
   (e) aeronautical meteorology;
   (f) climatology of relevant areas in respect of the elements having an effect upon aviation;
   (g) the movement of pressure systems;
   (h) the structure of fronts, and the origin and characteristics of significant weather phenomena which affect take-off, en-route and landing conditions;
   (i) causes, recognition and effects of icing;
   (j) frontal zone penetration procedures;
   (k) hazardous weather avoidance;
   (l) in the case of aeroplane and powered-lift, practical high altitude meteorology, including interpretation and use of weather reports, charts and forecasts;
   (m) jet streams;

3. Operation procedures:

   (a) Application of threat and error management to operational performance;
   (b) interpretation and use of aeronautical documentation such as AIP, NOTAM, aeronautical codes and abbreviations;
   (c) precautionary and emergency procedures;
   (d) safety practices;
   (e) operational procedures for carriage of freight and dangerous goods;
   (f) requirements and practices for safety briefing to passengers, including precautions to be observed when embarking and disembarking from aircraft;
   (g) in the case of helicopter, and if applicable, powered-lift, settling with power, ground resonance, retreating blade stall, dynamic roll-over, and other operational hazards;
   (h) safety procedures, associated with flight under VFR;

4. Radiotelephony:

   (a) action to be taken in case of communication failure.

AIRLINE TRANSPORT PILOT – AEROPLANE VALIDATION (AVL)
AIRLINE TRANSPORT PILOT – AEROPLANE CONVERSION (ACL)

SAMPLE TEST QUESTIONS AND ANSWERS

1. The pilot-in-command (PIC) shall ensure that all flight crew members, when engaged in performing duties essential to the safe operation of an aircraft in flight, use breathing oxygen continuously at cabin altitudes exceeding

A—10,000 feet for a period in excess of 30 minutes and if the cabin altitude exceeds 15,000 feet.
B—13,000 feet for a period in excess of 30 minutes and if the cabin altitude exceeds 14,000 feet.
C—10,000 feet for a period in excess of 30 minutes and if the cabin altitude exceeds 13,000 feet.

Answer A

2. ([2]Refer to appendix 2, figure 146.) What method was used to obtain the METAR at Tyler (KTYR) at 1753Z?

A—Automated Surface Observing System (ASOS), having a precipitation discriminator.
B—Automated Weather Observing System (AWOS), without a precipitation discriminator.
C—Automatic Meteorological Observing Station (AMOS), with a precipitation discriminator.

Answer A—Subject Matter Knowledge Code: M64.

3. What is the advantage of HIRL or MIRL on an IFR runway as compared to a VFR runway?

A—Lights are closer together and easily distinguished from surrounding lights.
B—Alternate red and white lights replace the white on the last 3,000 feet of runway for a caution zone.
C—Amber lights replace white on the last 2,000 feet of runway for a caution zone.

Answer C—Subject Matter Knowledge Code: P49.

4. If faced with an emergency where Air Traffic Control (ATC) assistance is desired and not already in contact, which frequency can be used to establish communications?

A—121.5 MHz.
B—122.5 MHz.
C—128.725 MHz.

Answer A—Subject Matter Knowledge Code: T01.

[2] See Appendix 4 for figures.

APPENDIX C

AIRLINE TRANSPORT PILOT – HELICOPTER (ATH)

(BEING DEVELOPED)

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APPENDIX D
FIGURES FOR SAMPLE QUESTIONS

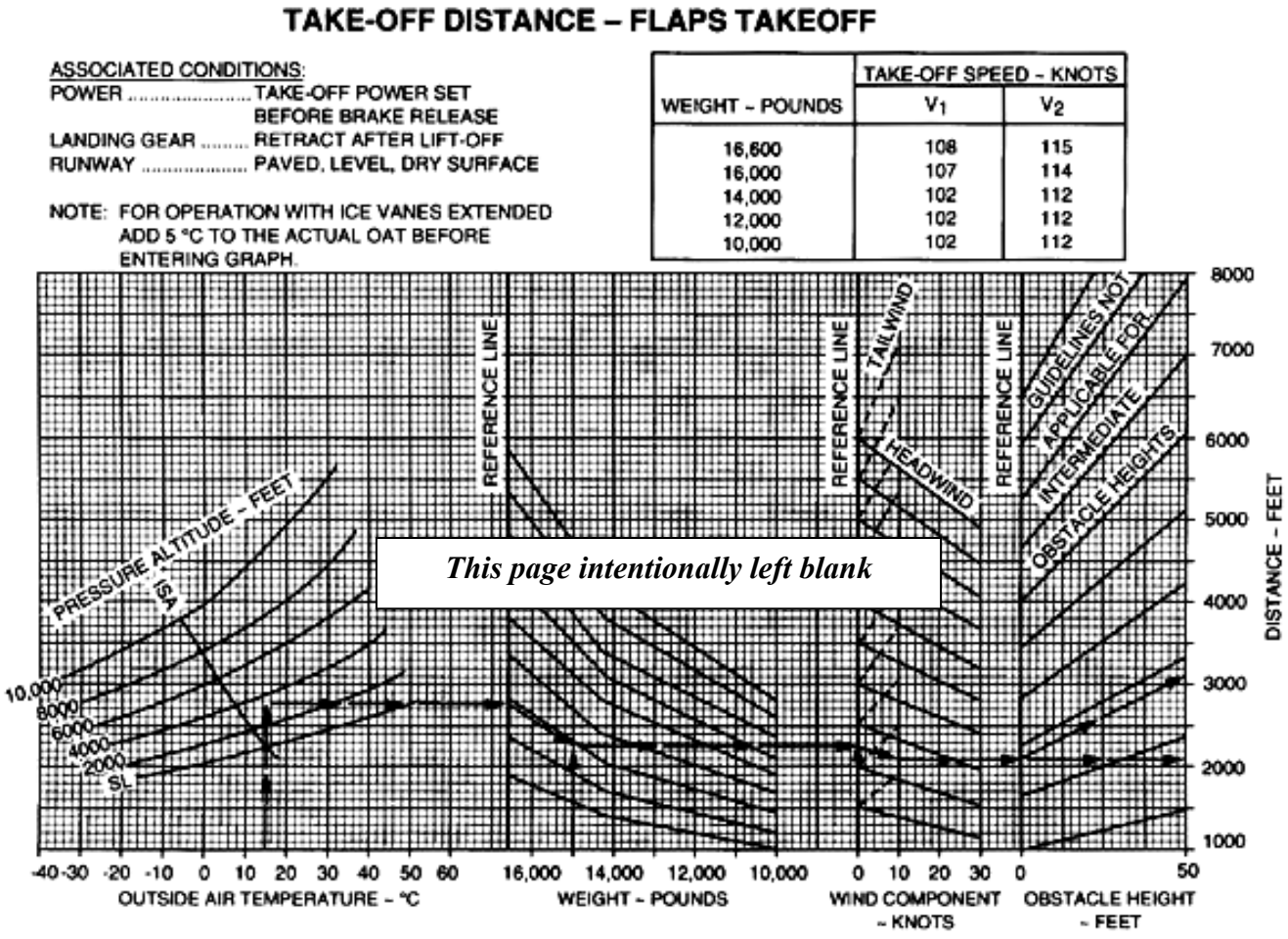

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Figure 13.

APPENDIX D

Form Approved: OMB No. 2120-0026

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

FLIGHT PLAN

(FAA USE ONLY) ☐ PILOT BRIEFING ☐ VNR ☐ STOPOVER | TIME STARTED | SPECIALIST INITIALS

1. TYPE	2. AIRCRAFT IDENTIFICATION	3. AIRCRAFT TYPE/ SPECIAL EQUIPMENT	4. TRUE AIRSPEED	5. DEPARTURE POINT	6. DEPARTURE TIME		7. CRUISING ALTITUDE
					PROPOSED (Z)	ACTUAL (Z)	
☐ VFR X IFR ☐ DVFR	N55JB	BE90/A	248 KTS	DFW Dallas Ft. Worth			15,000

8. ROUTE OF FLIGHT
DFW V369 BILEE, CUGAR 4 IAH

9. DESTINATION (Name of airport and city)	10. EST. TIME ENROUTE		11. REMARKS
	HOURS	MINUTES	
IAH Houston Intercontinental Houston			L/O = Level off. PPH = Pounds Per Hour

12. FUEL ON BOARD		13. ALTERNATE AIRPORT(S)	14. PILOT'S NAME, ADDRESS & TELEPHONE NUMBER & AIRCRAFT HOME BASE	15. NUMBER ABOARD
HOURS	MINUTES			
		BPT Beaumont-Port Arthur Jefferson County	17. DESTINATION CONTACT/TELEPHONE (OPTIONAL)	4

16. COLOR OF AIRCRAFT
BLUE/YELLOW

CIVIL AIRCRAFT PILOTS: FAR Part 91 requires you file an IFR flight plan to operate under instrument flight rules in controlled airspace. Failure to file could result in a civil penalty not to exceed $1,000 for each violation (Section 901 of the Federal Aviation Act of 1958, as amended). Filing of a VFR flight plan is recommended as a good operating practice. See also Part 99 for requirements concerning DVFR flight plans.

FAA Form 7233-1 (8-82)

CLOSE VFR FLIGHT PLAN WITH _____ FSS ON ARRIVAL

FLIGHT LOG

CHECK POINTS		ROUTE		WIND	SPEED-KTS		DIST	TIME		FUEL	
FROM	TO	ALTITUDE	COURSE	TEMP	TAS	GS	NM	LEG	TOT	LEG	TOT
DFW	L/O	V369 Climb					27		:12:00		231*
L/O	Bilee	V369 15,000		230/42 ISA							
Bilee	Cugar	Cugar 4 15,000									
Cugar	Start Descent	Cugar 4 15,000		230/42 ISA							
Start Descent	IAH	Descent & Approach					25	:14:00		132	
IAH	BPT	Vectors 3000				194	68				

OTHER DATA: * Includes Taxi Fuel
NOTE: Use 850 PPH Total Fuel Flow From L/O To Start Of Descent.
Use 880 PPH Total Fuel Flow For Reserve And Alternate Requirements.
A Missed Approach Requires 82# of Fuel.

TIME and FUEL: As required by FARs.

TIME	FUEL (LB)	
		EN ROUTE
		RESERVE
		ALTERNATE
		TOTAL

Figure 98.

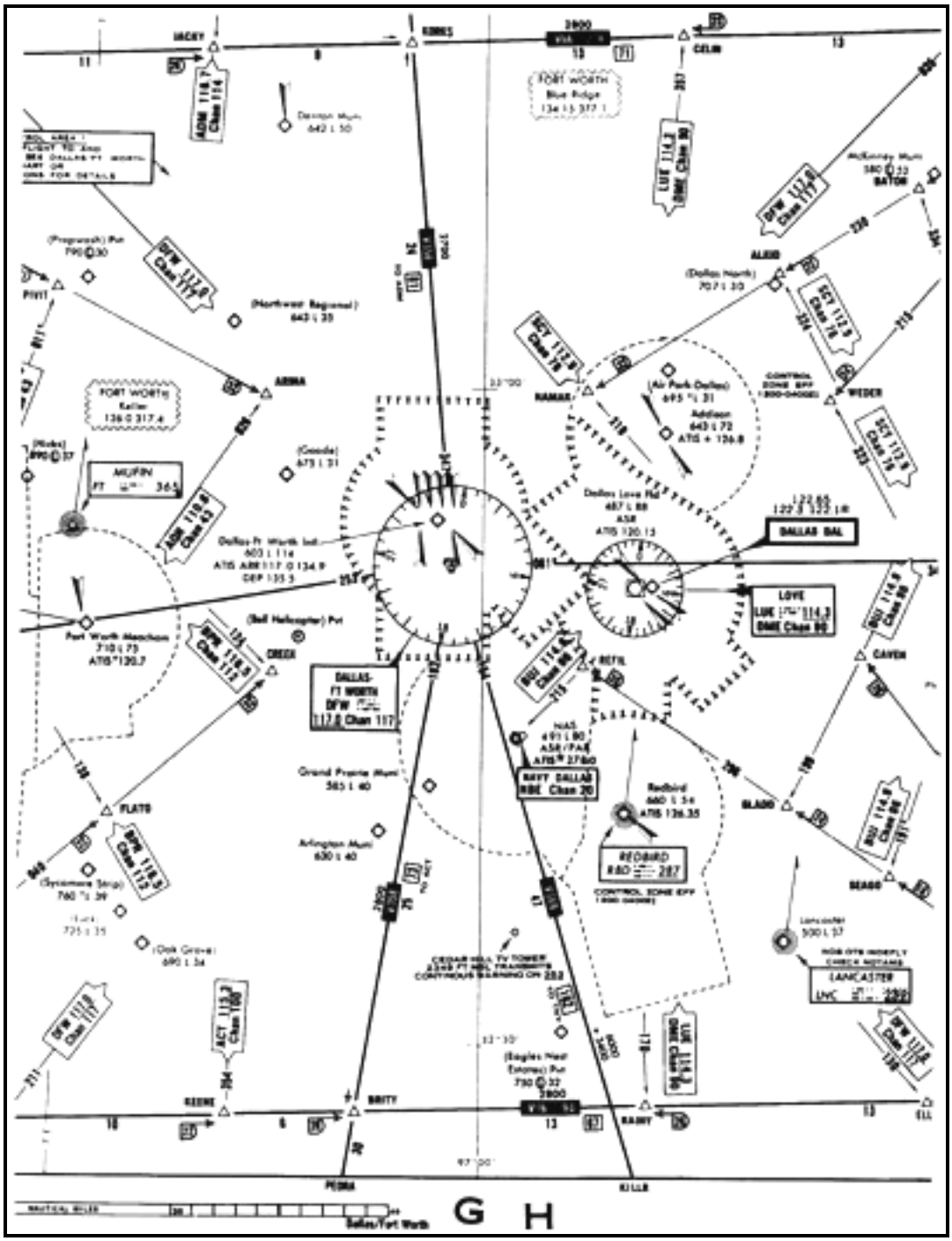

Figure 99.

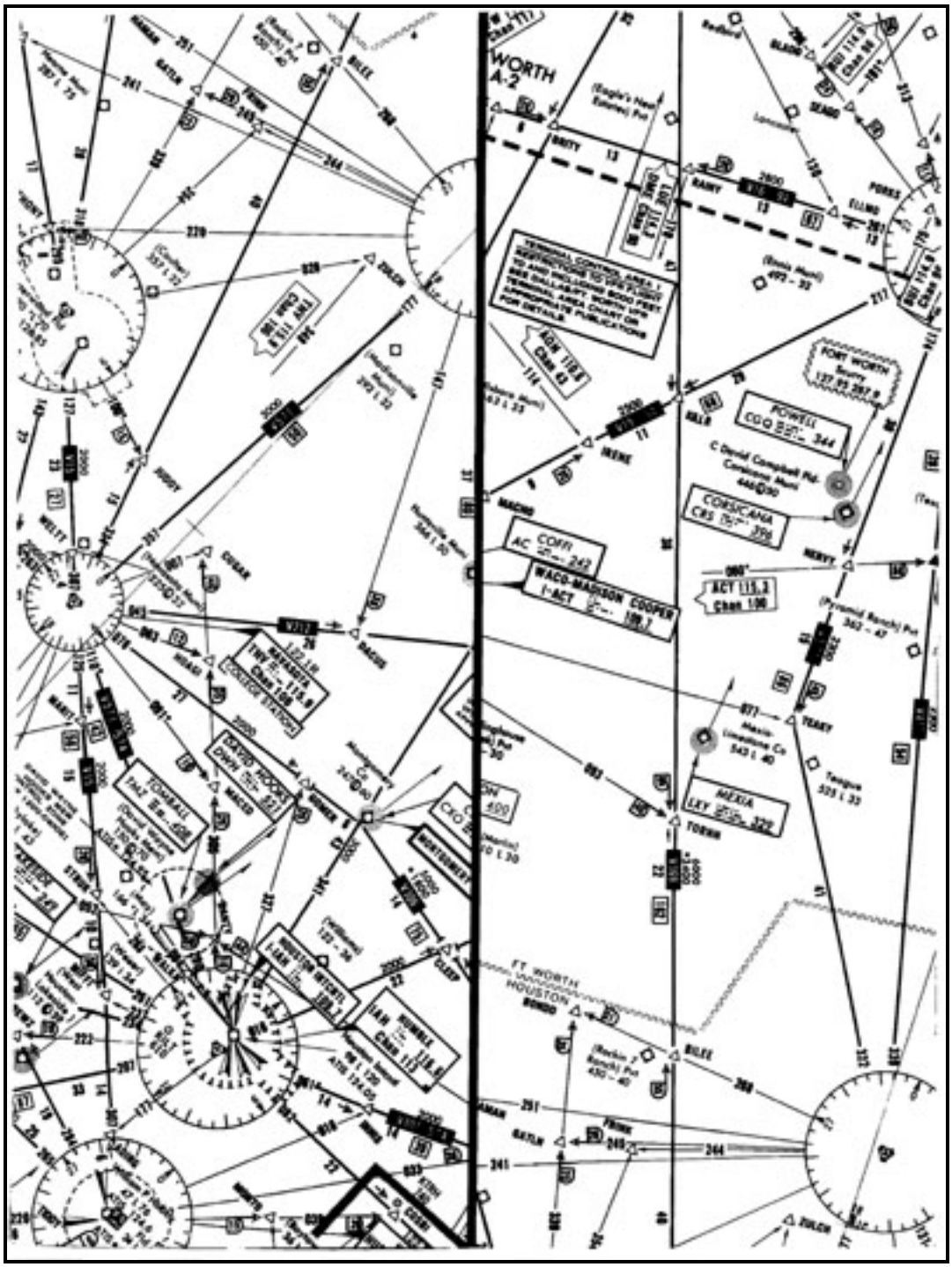

Figure 100.

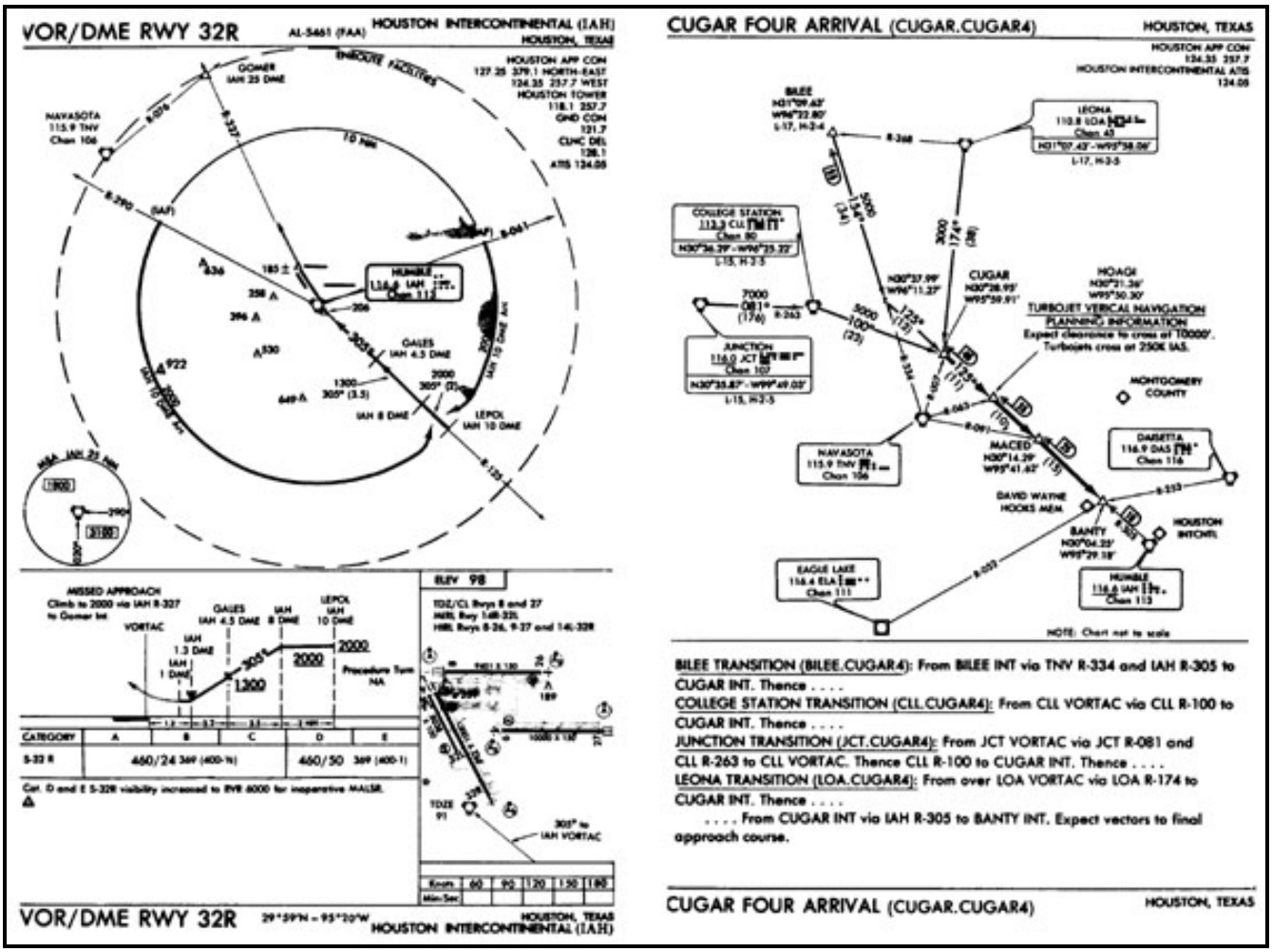
VOR/DME RWY 32R
HOUSTON INTERCONTINENTAL (IAH)
HOUSTON, TEXAS
CUGAR FOUR ARRIVAL (CUGAR.CUGAR4)
HOUSTON, TEXAS
BILEE TRANSITION (BILEE.CUGAR4): From BILEE INT via TNV R-334 and IAH R-305 to CUGAR INT. Thence . . . .
COLLEGE STATION TRANSITION (CLL.CUGAR4): From CLL VORTAC via CLL R-100 to CUGAR INT. Thence . . . .
JUNCTION TRANSITION (JCT.CUGAR4): From JCT VORTAC via JCT R-081 and CLL R-263 to CLL VORTAC. Thence CLL R-100 to CUGAR INT. Thence . . . .
LEONA TRANSITION (LOA.CUGAR4): From over LOA VORTAC via LOA R-174 to CUGAR INT. Thence . . . .
. . . . From CUGAR INT via IAH R-305 to BANTY INT. Expect vectors to final approach course.
NOTE: Chart not to scale
CUGAR FOUR ARRIVAL (CUGAR.CUGAR4)
HOUSTON, TEXAS
VOR/DME RWY 32R
29°59'N - 95°20'W
HOUSTON INTERCONTINENTAL (IAH)
HOUSTON, TEXAS

Figure 102.

Figure 124.

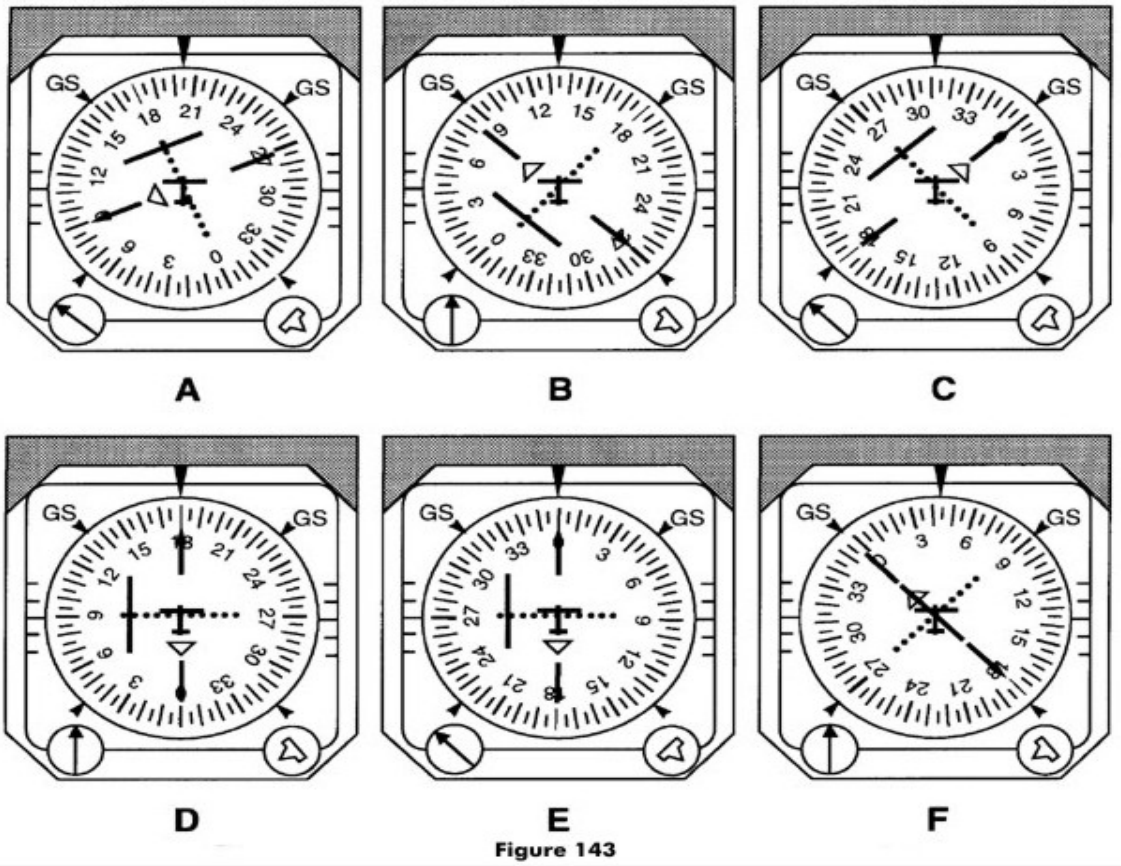

Figure 143

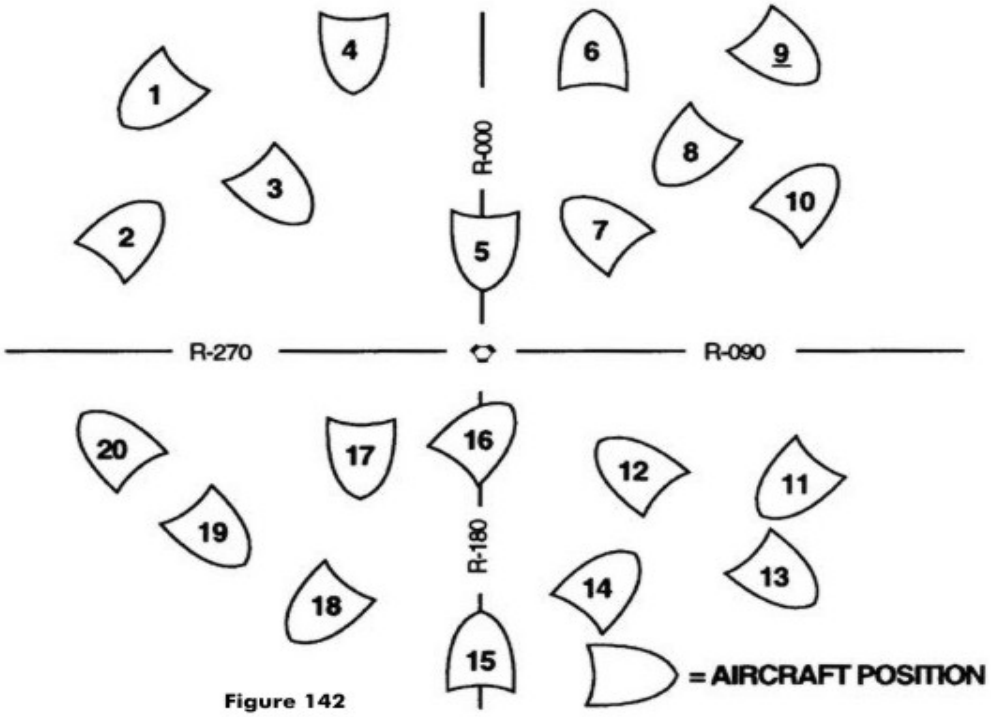

Figure 142

AVIATION ROUTINE WEATHER REPORTS (METAR)

TX

METAR KABI 131755Z AUTO 21016G24KT 180V240 1SM R11/P6000FT -RA BR BKN015 OVC025 19/15 A2990 RMK AO2 PK WND 20035/25 WSHFT 1715 VIS 3/4V1 1/2 VIS 3/4 RWY11 RAB07 CIG 013V 017 CIG 014 RWY11 PRESFR SLP125 P0003 60009 T01940154 10196 20172 58033 TSNO $.

METAR KMWL 131756Z 13011KT 10SM BKN011 OVC050 25/23 A3006.

METAR KPSX 131755Z 20010KT 7SM SCT018 OVC200 31/24 A3007.

METAR KPVW 131750Z 05006KT 10SM SCT012 OVC030 30/20 A3011 RMK RAE47.

METAR KSAT 131756Z 15016KT 7SM SCT028 OVC250 30/20 A3005.

SAT 131756Z UA /OV SAT/TM 1739Z/ FL UNKN/TP UNKN/SK OVC 040.

METAR KSJT 131755Z 22012KT 7SM BKN018 OVC070 25/23 A3002.

METAR KSPS 131757Z 09014KT 6SM -RA SCT025 OVC090 24/22 A3005.

SPECI KSPS 131820Z 01025KT 2SM +RA OVC015TCU 22/21 A3000 RMK DSNT TORNADO B15 N MOV E.

SPS 131820Z UA/OV SPS/TM 1818/FL090/TP C402/SK OVC 075.

METAR KTPL 131751Z 17015KT 15SM SCT015 SCT100 OVC250 31/20 A3007.

METAR KTYR 131753Z AUTO 26029G41KT 2SM +TSRA BKN008 OVC020 31/24 A3001 RMK A02 TSB44 RAB46.

METAR KVCT 131755Z 17013KT 7SM SCT030 OVC250 30/24 A3005.

AR

METAR KARG 131753Z AUTO 22015G25KT 3/4SM R28/2400FT +RA OVC010 29/28 A2985 RMK AO2.

METAR KELD 131755Z 06005G10KT 3SM FU BKN050 OVC100 30/21 A3010.

METAR KFSM 131756Z 00000KT 5SM SKC 30/20 A2982.

FSM 131830Z UA/OV HRO-FSM/TM 1825/FL290/TP B737/SK SCT 290.

METAR KFYV 131755Z 170018G32KT 2SM +TSRA SQ SCT030 BKN060OVC100CB 28/21 A2978 RMK RAB47.

FYV 131801Z UA/OV 1 E DAK/TM 1755Z/FL 001/TP CV440/RM WS LND RWY16 FYV.

METAR KHOT 131751Z 34006KT 18SM SCT040 OVC150 32/18 A3010.

METAR KHRO 131753Z 09007KT 7SM FEW020 BKN040CB 30/27 A3001.

SPECI KHRO 131815Z 13017G26KT 2SM +TSRA SCT020 BKN045TCU 29/24A2983 RMK RAB12 FRQ LTGICCG VC PRESFR.

HRO 131830Z UUA/OV 6 S HRO/TM 1825Z/FL 001/TP DC6/RM WS TKO RWY 18.

METAR KLIT 131754Z 07004KT 10SM SCT030 BKN250 34/29 A3007.

METAR KPBF 131753Z 29007KT 5SM SCT040 BKN100 35/19 A3008.

METAR KTXK 131753Z 25003KT 7SM SCT100 BKN200 33/19 A3010.

Figure 146.

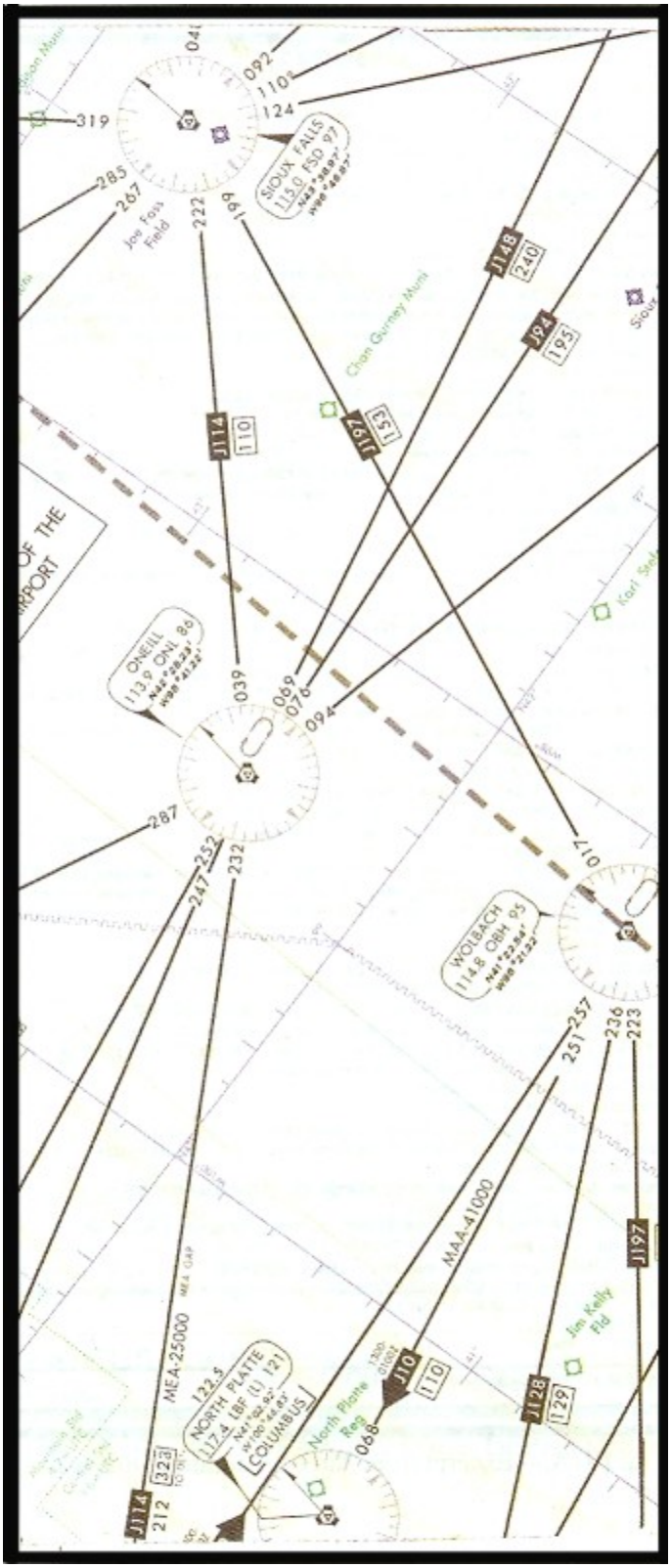
SIOUX FALLS
113.0 FSD 97
ONEILL
113.9 ONL 86
WOLBACH
114.8 OBH 95
NORTH PLATTE
117.4 LBF (L) 121.5
COLUMBUS
MEA-25000
MAA-41000
J114
J148
J94
J197
J10
J128
Joe Foss Field
Chan Gurney Muni
Jim Kelly Fld
North Platte Reg

Figure 192.