

SECTION 11. ADOPTED MAINTENANCE PROGRAMS FOR
AIRCRAFT ON SHORT-TERM LEASE

1816. AUTHORITY. The authority for approval of continuous maintenance programs is contained in FAR Sections 121.367, 127.133, and 135.425.

1817. PURPOSE. This section provides guidelines for authorizing an operator to maintain a leased airplane in accordance with the previous operator's maintenance program rather than his own program for that type aircraft.

1818. GENERAL. Several FAR Part 121 operators have leased aircraft from other FAR Part 121 operators or foreign air carriers with the understanding that the aircraft will be returned to the previous operator upon termination of the lease. It may be to the lessor's advantage to have the airplane maintained under his maintenance program rather than the lessee's so that it can be readily integrated back into his fleet when the lease ends. This arrangement also does away with the need for special inspections, component changes, etc., to convert the aircraft into the lessee's maintenance program for that type aircraft, followed by another conversion when it is returned to the lessor. The key factors in arrangements of this nature are that the lessee is capable of accomplishing the program to the lessor's standards and that the adopted program is equivalent to his/her own. The lessee's responsibility for the effectiveness of the adopted program is the same as for any other maintenance program approved for his/her use.

1819. PROCEDURE. An operator intending to maintain a leased aircraft in accordance with the lessor's program must substantiate the following:

a. The lessor's program, as carried out by the lessee for the period of the lease, will result in a level of airworthiness equivalent to that of the lessee's aircraft maintained under his/her own program.

b. The lessee is capable of accomplishing the lessor's program with regard to facilities, equipment, training, etc.

c. The lessee arranges for maintaining equipment or installations not covered by lessor's program such as life vests, ELT's etc.

d. The lessee takes adequate steps to ensure that the maintenance programs for the leased aircraft and his own are kept separate and are applied to their respective aircraft.

e. The lessee receives and maintains the records required by FAR Sections 121.380 or 135.439 and has arranged with the lessor for access to these records.

f. The lessee has the necessary records to schedule maintenance tasks at the intervals specified by the lessor's program, or has arranged with the lessor for this service.

g. The lessee has adequate manuals and technical material to accomplish the lessor's program.

h. The lessee amends his weight and balance program, as necessary, to accommodate the leased aircraft.

1820. APPROVAL. Adopted maintenance programs for aircraft on short-term leases will be approved by operations specifications as shown in Figure 6-15. Provisions for maintenance of equipment that is not included in the lessor's program should be referenced on those specifications.

1821.-1829. RESERVED.

SECTION 12. AIR CARRIER SPECIAL FLIGHT PERMITS WITH CONTINUING AUTHORIZATION TO CONDUCT FERRY FLIGHTS

1830. AUTHORITY. The regulatory basis for approval of a certificate holder's special flight permit with a continuing authorization is contained in Federal Aviation Regulations Parts 21 and 91, Sections 21.197, 21.199, and 91.27.

1831. PURPOSE. This section provides instructions to maintenance personnel assigned to operators relative to the application for amendment to operations specifications concerning special flight permits.

1832. GENERAL. The special flight permit authorized by FAR Section 21.197(c) will be issued as an operations specifications in accordance with the example specification as shown in Figure 6-19. That example depicts the permit, and the terms thereon were cleared with the headquarters element responsible for airworthiness certification (predecessor to the Aircraft Manufacturing Division, AWS-200). Operators subject to Subpart L of FAR Part 121, Subpart I of FAR Part 127, or the sections of Subpart J of Part 135 specified by Section 135.411(a)(2) or (b) are eligible for this authorization. Operators subject to FAR Section 135.411(a)(1) are not eligible.

a. Additional conditions and limitations considered necessary by the permit holder to facilitate inspection of the aircraft and performance of the ferry flight should be included in the operators' operations and maintenance manuals.

b. FAR Section 21.197(c) does not mandate issuance of permits to all eligible operators. The purpose of using operations specifications as the issuance media is to ensure these permits are issued only to operators who can be expected to responsibly administer their use.

1833. SPECIAL CONDITIONS AND LIMITATIONS. Since individual permit holder circumstances may vary greatly, it is not possible to provide a list of conditions and limitations which would be applicable in every case. When reviewing the manual material submitted by the permit holder, the inspector should be guided by the objective of assuring safe operation of the aircraft. The following items should be considered when conducting such a review:

- a. Technical data to which the aircraft must perform.
- b. Operational equipment necessary for safe operation of the aircraft.
- c. Aircraft weight limits.
- d. Fuel and fuel distribution limits.
- e. Center of gravity limits.
- f. Maneuvers to which the aircraft is limited.
- g. Limit on usage of flight equipment, such as autopilot, etc.

- h. Meteorological conditions to be avoided and the inspections required if inadvertently encountered.
- i. Airspeed limits as required.
- j. Weather minimums appropriate to the aircraft operating condition.

1834. APPLICATION. Operators of aircraft under FAR Parts 121, 127, or the sections of Subpart J of FAR Part 135 specified by Section 135.411(a)(2) are eligible to make application. An applicant must file his application for amendment of operations specifications with the FAA district office charged with the overall inspection of its operations. The applicant may submit for inclusion in the operations specifications any method and procedure by which it can be shown that the aircraft is capable of safe flight even though it may not meet applicable airworthiness requirements. The approval of the special flight permit with a continuing authorization is the responsibility of the maintenance inspector.

1835. APPLICATIONS INVOLVING FOREIGN AIR TRANSPORTATION. Reports indicate that assigned inspectors have requested applicants engaged in foreign air transportation to include in the operations specifications limitations for which no authority exists; i.e., obtaining permission to fly over, into, or out of foreign countries when exercising the special flight permit with continuing authority.

a. Special Airworthiness Certificate, FAA Form 8130-7, prohibits operation of an aircraft for which it is issued "over any foreign country without the special permission of that country." This requirement was placed on FAA Form 8130-7 because it can be issued under FAR Section 21.197(a) for purposes other than just flight to a base for repairs. When issued for one of the other purposes specified in FAR Section 21.197(a), the aircraft cannot be flown over any foreign country without the special permission of that country since the U.S. is obligated under the Chicago Convention to ensure that aircraft of U.S. registry have standard certificates of airworthiness.

b. The only exception recognized in International Civil Aviation Organization Annex 8 is that provided for in the case of temporary loss of airworthiness due to damage to the aircraft. In this case, damaged aircraft refers to inoperative or malfunctioning equipment as well as physical damage to the aircraft. In such an event, Part II, Section 6.2.2 recognizes that the country of registry may permit the aircraft to be ferried to a place where it can be restored to an airworthy condition.

c. Since Annex 8 provides for this particular flight situation without a standard certificate of airworthiness, there is no need to require the operator with continuing authorization to obtain permission for the flight from the foreign country. This authorization, however, does not extend to situations specified in FAR Section 21.197 which involved flying an aircraft that was not damaged to a base where alterations were to be performed.

1836. DISPLAY OF PERMIT. Regulatory requirement calls for the display of the current airworthiness certificate including a special flight permit or authorization in the aircraft. However, in order to provide for greater

flexibility, the requirement is stated in such a manner to allow the permit holder to carry either the operations specifications or portions of the certificate holder manual containing a restatement of the permit and those conditions and limitations imposed by the Administrator to the operations specifications.

1837. GUIDANCE. The information presented in this section is intended to highlight the salient points. We realize that it would be impossible to cover all the various ways and means which may be submitted by the applicant, nor would it be feasible to issue instructions in anticipation of what might be submitted. However, the inspector should determine that the operator's manual contains complete instructions and procedures including the following items:

a. Provisions for conveying the authorization to ferry to the operating crew. This can be accomplished by telegram or other means.

b. A system for recording each flight conducted under this authorization.

c. Before making a final determination, the regulatory requirements enumerated in paragraph 1830 should be reviewed to ascertain that implementation of the special permit with continuous authorization in accordance with the conditions and limitations proposed by the operator complies with the FAR.

d. Aircraft involved in an accident or incident may not be ferried prior to notifying the FAA accident coordinator.

e. In those cases where an Airworthiness Directive (AD) limits ferry flights under FAR Section 21.197 to those specifically approved by the FAA, the region issuing the AD has found that safety demands such a limitation and certificate holders are not permitted to use their FAR Section 21.197(c) authorization. FAR Section 39.3 provides that no person may operate a product to which an AD applies except in accordance with the requirements of that AD. Therefore, if an AD requires compliance before further flights and does not have a provision for the issuance of special flight permits, the operation of an aircraft to which it applies would not be permitted.

f. The manual instructions and procedures submitted by the operator relative to the issuance of special flight permits should be coordinated with the principal avionics and operations inspectors.

1838.-1845. RESERVED.

SECTION 13. PARTS POOL AGREEMENTS

1846. PURPOSE. This section serves as guidance in issuing Operations Specifications and ensuring inspection procedures relating to parts pool agreements involving operators under FAR Part 121. FAR Part 135 does not include this provision.

1847. BACKGROUND. Exemption Numbers 152, 260, 590, and subsequent exemptions granted authority for U.S. FAR Part 121 certificate holders to participate in parts pool agreements with foreign air carriers. These exemptions were granted to allow U.S. FAR Part 121 certificate holders to deviate from the airmen provisions of the FAR's which would otherwise preclude them from utilizing the maintenance services of certain foreign air carriers whose employees do not hold U.S. Airman Certificates. All Operations Specifications previously issued under the Exemption may continue to remain in effect until they expire. In order to provide a more convenient method, FAR Section 121.361 was amended to permit deviation from those provisions that would prevent the use of parts maintained by persons employed outside the U.S. who do not hold U.S. Airman Certificates. All personnel should understand that FAR Section 121.361 provides for the amendment of Operations Specifications to permit deviation from the airmen requirements for persons employed outside of the United States. All other provisions of FAR Part 121 are applicable. It should be further noted that FAR Section 121.361(b) requires the surveillance of the facilities and the practices to assure that all work on such parts is accomplished in accordance with the certificate holder's manuals.

1848. GUIDANCE. The following items are presented to assist the inspector in processing an amendment to the Operations Specifications and performing parts pool inspections:

a. Operations Specifications.

(1) The Operations Specifications need list only those participants (and their locations) who have been inspected by the operator and who have also been found acceptable by the FAA.

(2) In instances where a foreign facility is being used by several U.S. certificate holders, we see no objection to any certificate holder's acceptance of the other U.S. certificate holder's initial or biennial inspection report, provided such arrangement is reflected in the certificate holder's manual.

(3) The Operations Specifications sample (Figure 6-16 of this chapter) lists the information which should be contained on the approved Operations Specifications.

(4) Amendments to parts pool participant operations specifications will be handled concurrently rather than on an individual basis.

(5) The certificate holder's manual should contain procedures to have qualified personnel of its organization perform inspection of the facilities. These inspections shall determine that each participant has

adequate facilities and is properly staffed with competent personnel, and is fully capable of furnishing the parts intended. These procedures should provide for the certificate holder's surveillance of the participant's facilities biennially to assure the continued capability of such facilities to perform the work in accordance with the certificate holder's manual. After determining the acceptability of the detailed maintenance data, the U.S. air carriers may incorporate the foreign air carriers' detailed maintenance instructions into their maintenance manual system or reference the programs controlling documents on FAA Form 1014. However, such data will be clearly identified. Also, the U.S. air carriers shall incorporate a method of assuring control over subsequent revision of such data issued by the foreign air carriers.

b. FAA Inspection Procedures.

(1) Parts pool inspections shall be conducted by the region within whose geographical area the foreign facility is located.

(2) The parts pool inspection shall be performed in conjunction with the scheduled repair station renewal inspection. Duplicate inspections should be avoided unless there are known or suspected deficiencies. A copy of the inspection report indicating the findings and corrective action taken will be forwarded to all regions.

(3) Foreign parts pool facilities that do not have an appropriate repair station rating and issuing such rating is not feasible shall be inspected on an annual basis.

(4) With respect to FAA's responsibility to determine original and continued acceptability of any participant to be listed in the operations specifications, the competency of personnel, the adequacy of facilities, and total capability of such participant to produce an airworthy product should be regarded as being the same as any domestic contract facility which might be used by the air carrier.

(5) All assigned inspectors should make arrangements with their assigned carrier to receive a copy of all biennial inspections performed in compliance with FAR Section 121.361(b).

1849. FOREIGN-MANUFACTURED REPLACEMENT PARTS.

a. Parts are being fabricated in foreign countries and supplied to foreign operators for use on their U.S.-manufactured aircraft. These parts may become available to U.S. operators through parts pool participation. Repairs made by substituting materials, parts, or appliances of foreign manufacture for original equipment may constitute a major repair or alteration. In such cases, regulatory requirements other than those relating to U.S. airmen certificates are involved and must be considered when performing parts pool inspections.

b. Air carrier inspectors should assure that all aeronautical replacement parts obtained from a parts pool meet applicable airworthiness

requirements. Parts pool inspection should establish that the operator's continuous maintenance programs contain procedures to guarantee that all maintenance, preventive maintenance, and alterations are performed in accordance with its maintenance manual, and that major repairs or alterations accomplished by substituting original materials, parts, or appliances with ones of foreign manufacturers are done in accordance with technical data approved by the Administrator (FAR Sections 121.379 and 43.13). When foreign-manufactured replacement parts are involved, special emphasis should be placed on assuring that such parts meet all applicable FAR airworthiness requirements prior to installation.

1850.-1855. RESERVED.

SECTION 14. MANAGEMENT PERSONNEL

1856. PURPOSE. This sections clarifies the regulatory requirements for maintenance management personnel and related qualifications, and discusses inconsistencies in these regulations.

1857. BACKGROUND. Specific management personnel regulatory requirements were first imposed on FAR Part 121, Supplemental Air Carriers and Commercial Operators, because of a tendency for small operators within those classifications to operate without competent maintenance personnel. Several accidents were attributed to this deficiency which led to a regulation requiring a Director of Maintenance and a Chief Inspector. The size and characteristics of the scheduled flag and domestic air carriers demanded formal management organizations so there was no need to include them in the regulation. Subsequent amendments to FAR Parts 121 and 127 introduced required inspection items including independent inspection organizations, analysis and surveillance systems, and inclusion of operator's maintenance organizations in their manuals. All of this negated the need for further management personnel regulations until the 1978 revision to FAR Part 135 introduced management personnel into commuter/air taxi operations.

1858. DISCUSSION. The management personnel/qualification issue requires judicious application to provide a sensible organization without imposing unrealistic or superfluous requirements. The key terminology in the lead paragraphs for FAR Sections 121.59 and 135.37 is "enough qualified management personnel to provide the highest degree of safety in its operations."

a. The FAR specifies certain management positions which the certificate holder must either fill or satisfy by consolidating with other positions. In the case of consolidation, he must determine what qualifications must be met by the holders of combined positions. If the Director of Maintenance position is consolidated with another management position, and administering the operator's maintenance program involves airworthiness determinations or determinations of program content, the person filling the consolidated position should meet the experience and certificate requirements specified by the applicable regulation. An operator with an approved aircraft inspection program or an approved program for additional maintenance requirements for aircraft of 9-or-less passengers would fall in this category. However, if administering maintenance for the particular operator is limited to scheduling 100-hour/annual inspections and a manufacturer's program for additional maintenance requirements for accomplishment by an approved repair station or an appropriately rated mechanic, the Director of Maintenance position can be consolidated with another position without regard for experience requirements provided the scheduling responsibilities are assigned to the consolidated position.

b. FAR Section 135.37 does not require a Chief Inspector although FAR Section 121.59 does. The reason for this apparent disparity is that, although, FAR Part 135 describes continuous airworthiness maintenance programs for certain aircraft classes, it also prescribes inspection programs for other aircraft classes which do not warrant a Chief Inspector. The inspection separation specified by FAR Sections 121.365 and 135.423 obviously require both a Director of Maintenance and Chief Inspector except when the operator has a

contractual arrangement with another organization for program accomplishment that includes tasks subject to inspection separation. A Director of Maintenance is still essential for the proper administration of the program under this arrangement.

c. The full-time employment requirements specified by FAR Part 121 for management personnel is not included in FAR Part 135. If part-time maintenance management personnel are accepted, it should be established that they have the authority and interest to fulfill the responsibilities that go with their positions. Any arrangement other than direct employment should be subject to a written contract between the certificate holder and the individuals involved.

d. Contracting with a repair station to provide the services of management personnel does not satisfy the rule. It is important to recognize that the primary responsibility of the Director of Maintenance is to manage the maintenance activity and that performing maintenance is a secondary responsibility.

1859. FAR PART 135 DEVIATIONS. FAR Section 135.39(d) provides for the Director of Airworthiness, AWS-1, to authorize a deviation from the qualifications of FAR Section 135.39(c) if the Director finds that the person has had equivalent aeronautical experience. Although FAR Section 135.39(d) allows for a deviation under certain circumstances, the rule does not provide the operator with the details needed to prepare the deviation request. As a result, requests are received by the Air Transportation Branch, AWS-330, which contain inadequate information. Additionally, requests do not always include comments from the responsible FAA field and regional offices. In order to promptly respond to the operators' requests for deviations, the following coordination is necessary between the operator and the FAA offices responsible for processing the request for a deviation:

a. The operator's request should be submitted through the FAA field office holding certificate responsibility to the Director of Airworthiness, AWS-1.

b. Data from the operator should include the type and number of aircraft it operates and if its maintenance program is being accomplished under the requirements of FAR Section 135.411(a)(1) or FAR Section 135.411(a)(2).

c. A resume of the person, for whom the deviation pertains, should include dates of experience, type of aircraft, specific areas of experience, aeronautical education, types of positions held, mechanic's certificate number (if applicable), and date or dates the certificate and ratings were issued.

d. When the field office receives a request, the principal airworthiness inspector will review all the information. A personal interview may be conducted to verify the applicant's aeronautical experience and qualifications. The mechanic's certificate of the person (if applicable) should be verified

through the Airmen Certification Branch, AAC-260, to determine the original date the certificate was issued and dates additional ratings were obtained. A record of this verification should be included in the field office's recommendation. After all data is evaluated, the field office should forward their evaluation and recommendation along with the deviation request to their regional office.

e. Regional office maintenance specialists are expected to pursue all data received, add comments to the field office recommendation, and forward the complete package, in accordance with regional procedures, to the Aircraft Maintenance Division, AWS-300, for preparation of a reply to the operator from the Director of Airworthiness, AWS-1.

1860.-1865. RESERVED.

SECTION 15. MINIMUM EQUIPMENT LISTS - DEVELOPMENT AND UTILIZATION

1866. PURPOSE. This section provides guidance for:

a. Participation of an airworthiness specialist as a member of a Flight Operations Evaluation Board (FOEB).

b. Inclusion of the Minimum Equipment List (MEL) in the maintenance portion of the operators' manuals.

1867. FLIGHT OPERATIONS EVALUATION BOARD (FOEB).

a. Order 8430.6B, Air Carrier Operations Inspector's Handbook, contains the authority for the designation of an airworthiness specialist as a member of the FOEB and describes the duties of that Board. Specialists so assigned should become familiar with this directive, especially those instructions concerning the development of a Master Minimum Equipment List.

b. The FOEB airworthiness specialist should acquire a thorough knowledge of the aircraft and its systems and components. Through his knowledge of the reliability and redundancy of the systems and components, he can make a substantial contribution to the decisions to be made by the FOEB concerning aircraft airworthiness with specific equipment inoperative.

1868. INCLUSION OF MINIMUM EQUIPMENT LIST IN THE OPERATOR'S MAINTENANCE MANUAL.

Persons concerned with the operator's maintenance manual should determine that this manual includes instructions and maintenance provisions which are appropriate to the operator's MEL. For example, when the operator's approved procedures for continuing flight with inoperative equipment include requirements for contingent maintenance, such as inspection of related equipment or systems, then the MEL along with these instructions should be in the maintenance manual. Similarly, when the operator elects to have equipment replaced or repaired, which is over and above the minimum requirements for continuation of flight, such items would have a valid place in the manual. Any instruction which pertains to maintenance of the operator's aircraft is a proper subject for the operator's manuals and is required by regulation to be included in the maintenance portion of that manual.

1869. THE EFFECT OF THE MINIMUM EQUIPMENT LIST ON THE AIRWORTHINESS RELEASE AS REQUIRED BY FAR SECTIONS 121.709, 127.319, OR 135.433.

A question frequently asked: Will a mechanic or inspector be in violation for releasing an aircraft as airworthy when certain items are inoperative in accordance with an approved MEL? The sections of the FAR which apply to the airworthiness release state that the release or log entry must certify that "The work was performed in accordance with the requirements of the certificate holder's manual." If, under the provisions of an approved MEL, which is a part of the operator's manual, he/she is not required to return certain inoperative items to an operative condition or perform maintenance on such items, it is obvious that he/she would be relieved of any responsibility for the inoperative status of such items. Further, he/she is not responsible for contingent maintenance required by the MEL for previously deferred items unless additional or repetitive maintenance is required by MEL. However, if the individual knew that some other uncorrected

condition or malfunction existed which caused the MEL item to become inoperative, then inspection and repair of that condition or malfunction would be required maintenance.

1870. THE EFFECT OF THE MINIMUM EQUIPMENT LIST ON APPROVAL FOR RETURN TO SERVICE REQUIRED FOR AIRCRAFT UNDER FAR SECTION 135.411(a)(1). With regard to the question posed in paragraph 1869 preceding for aircraft subject to FAR Section 135.411(a)(1), new FAR Section 43.11(7) applies both to aircraft inspected according to Part 91 and aircraft under an AAIP. FAR Section 43.5 and Section 43.7 are unaffected because the MEL is a supplemental type certificate so the aircraft meets type certificate requirements with the inoperative equipment.

1871.-1889. RESERVED.

SECTION 16. LIST OF AIR CARRIER AIRCRAFT

1890. PURPOSE. This section provides the inspector with information relative to the submission of the List of Air Carrier Aircraft (RIS: FS 8320-7).

1891. GENERAL. This instruction is directed only to inspectors assigned to flag and domestic operators operating under the provisions of FAR Part 121. Aircraft listings for supplemental operators, commercial operators, and air carriers operating under FAR Part 127 are shown on Operations Specifications - Aircraft Identifications, and shall be handled in accordance with instructions dealing with Operations Specifications contained in this Order, Chapter 6, Section 7, Figure 6-20.

1892. REPORTING PROCEDURES.

a. The assigned inspectors shall prepare a quarterly report listing the aircraft utilized by their assigned air carriers. The listing should include only those aircraft operated and maintained under provisions of FAR Part 121. For example, the operator's aircraft (if any) used exclusively for training or other purposes apart from its air carrier operation or which are not maintained in accordance with FAR Part 121 must not be included on the List of Air Carrier Aircraft.

b. Accurate and timely reports are necessary. The data derived therefrom is for internal needs to provide information to the Department of Defense, the Civil Aeronautics Board, and other governmental agencies. The assigned inspectors shall ascertain that the list is current. If no changes were made during the quarter, the quarterly report should be submitted indicating "no changes." Distribution of the quarterly report shall be made not later than the 10th day of January, April, July, and October of each year through regional channels to the Aircraft Maintenance Division, AWS-300, 800 Independence Avenue, SW., Washington, D.C. 20591, with copies to the Mike Monroney Aeronautical Center, National Safety Data Branch, AVN-120, P.O. Box 25082, Oklahoma City, Oklahoma 73125.

1893. INFORMATION TO BE INCLUDED ON "LIST OF AIR CARRIER AIRCRAFT (RIS: FS 8320-7)."

- a. Manufacturer.
- b. Model.
- c. Serial number.
- d. Registration number.
- e. Operating certificate(s) under which aircraft are operated.
- f. Designation - passenger, cargo, or passenger/cargo convertible.

g. Aircraft for which no seating is provided except for the crew.
Denote maximum number of crew followed by designation; i.e., "5-cargo."

1894.-1899. RESERVED.

SECTION 17. MONTHLY AIR CARRIER AIRCRAFT/ENGINE UTILIZATION REPORT
(RIS: AC 8320-1)

1900. AUTHORITY. The regulatory basis for this section is contained in FAR Sections 121.705, 127.315, and 135.417.

1901. PURPOSE. The monthly Air Carrier Aircraft/Engine Utilization Report (RIS: AC 8320-1) provides the Aircraft Maintenance Division, AWS-300, Air Transportation Branch, AWS-330, with a record of certain statistics on the air and commercial operators under FAR Part 121, air carriers conducting multiengine scheduled passenger operations under FAR Part 135, or air carriers conducting cargo operations under FAR Part 135 by a 418 authorization for use in planning, directing, controlling, and evaluating assigned programs.

1902. GENERAL. The responsibility for completion and submission of the subject report rests with the assigned inspector. The inspector will normally acquire the needed information under the authority contained in the operation rules which provide for the inspection and examination of the operator to determine compliance with the applicable regulations.

1903. PROCEDURES. The following procedures outline the action to be taken by the region, district office, and the National Safety Data Branch, AVN-120, to assure the purpose and objectives of this system are accomplished.

a. Report Preparation. Each month the assigned inspector shall obtain from his carrier(s) the information to complete the "Air Carrier Aircraft/Engine Utilization Report" (RIS: AC 8320-1). The report is to be submitted on AC Form 8320-1, Aircraft/Engine Utilization Report, National Stock No. 0052-00-571-5000. The report must be typewritten. The following is an explanation of the data to be entered in each block, and a sample form to assist you in completing the report is at the end of this section.

(1) OPER SYMBOL - Enter in this block the 4-character symbol representing the air operator's name.

(2) DATE MO YR - Enter the month and year for which the utilization data applies (example - 0175 is for January 1975).

(3) INSPECTOR NAME - This is to identify the inspector responsible for the report.

(4) REGION-DISTRICT OFFICE - This is to identify the region and district office to which the inspector is assigned.

(5) AIRCRAFT MFG - A 1- or 2-letter abbreviation for the aircraft manufacturer's name. (See Appendix 5, Order 8010.2, Flight Standards Service Difficulty Program, for a list of acceptable abbreviations).

(6) AIRCRAFT MODEL - Enter one to twelve characters to represent the aircraft model. The official FAA designation of the aircraft must be used. (Refer to FAA type certificate data sheets for model information.)

(7) NO. ACFT - This is to be the number of active aircraft. Active aircraft are defined as those in service any time during the month.

(8) ENGINE MFG - A 1- to 4-letter abbreviation for the engine manufacturer's name. (See Appendix 5, Order 8010.2, for a list of acceptable abbreviations.)

(9) ENGINE MODEL - Enter one to twelve characters to represent the engine model. The official FAA designation of the engine must be used. (Refer to FAA type certificate data sheets for model information).

(10) NO. SD - This is to be the number of engine shutdowns/featherings. Shutdowns accomplished for training, demonstrations or flight check purposes will not be reported.

(11) NO. REM - Enter the number of engines removed prematurely due to mechanical discrepancy.

(12) FLEET UTILIZATION DAYS. This is a summation of the number of days EACH aircraft was active. Example: An air carrier operates 12 Boeing model 727 aircraft. During the month being reported (November), 2 aircraft were out of service, 7 were operated each day of the month, 2 were operated 28 days and 1 only 3 days. The active number of aircraft is 10 and the fleet utilization days are 269. They are developed as follows:

<u>No. of Acft</u>		<u>No. Days Operated</u>		<u>No. Acft Days</u>
No. Active	2	Times	0	0
Acft is	7		30	210
10	2		28	56 Fleet
	<u>1</u>		3	3 Utilization
				<u>269 Days</u>

(13) FLEET UTILIZATION AIRCRAFT TOTAL HRS - Enter the service time to the nearest whole hour.

(14) FLEET UTILIZATION ACFT HR AVG/DAY - This is the daily aircraft utilization or the average daily flight hours for each aircraft in the fleet and is computed as follows:

$$\text{Daily Utilization} = \frac{\text{Fleet Utilization Aircraft Total Hours}}{\text{Fleet Utilization Days}}$$

(15) FLEET UTILIZATION ENGINE TOTAL HRS - This field is to represent the engine utilization; i.e., the number of engine operating hours for this aircraft, engine and operator combination.

$$\text{Engine Total Hours} = \text{Fleet Utilization Aircraft Hours times the number of engines this aircraft.}$$

(16) REMARKS - This space is for the inspector's remarks and comments. Also, it is to revise or establish engine TBO/hot section inspection times, report operator name or symbol changes, fleet size changes, etc.

b. Report Distribution. The "Air Carrier Aircraft/Engine Utilization Report" shall be prepared, addressed, and mailed to arrive in the following offices on or before the 15th of the month following the month of activity.

(1) Original to Manager, National Safety Data Branch, AVN-120, Federal Aviation Administration, P.O. Box 25082, Oklahoma City, Oklahoma 73125.

(2) Copy to Manager, Air Transportation Branch, AWS-330, Federal Aviation Administration, 800 Independence Avenue, SW., Washington, D.C. 20591.

(3) Additional distribution is to be in accordance with individual region procedures.

c. National Safety Data Branch, AVN-120.

(1) On or about the 15th of each month, the Safety Data Branch will review the reports received from district offices to assure the data is properly prepared for ADP conversion and processing. The branch will review all computer prepared products to assure they are complete and accurate.

(2) The National Safety Data Branch will issue the "Aircraft Utilization and Propulsion Reliability Report." Distribution of the report shall be in accordance with the established mailing list maintained by AVN-120.

d. Air Carrier Aircraft Fleet Utilization Reports will be prepared in four data arrangements each highlighting separate fields of information. Each of these reports is listed and briefly titled in the Catalog of Recurring Reports for FAA Headquarters, FAA Order 1340.3M (or subsequent revisions). All utilization reports are listed under Reports Identification Symbol (RIS) FS 8340 series. Printing and publication frequency for utilization reports is on a quarterly basis. The report shall consist of the following:

- (1) (RIS: FS 8340-4) - Air Carrier - Aircraft Utilization.
- (2) (RIS: FS 8340-5) - Aircraft - Air Carrier Utilization.
- (3) (RIS: FS 8340-6) - Operator Group - Aircraft Utilization.
- (4) (RIS: FS 8340-8) - Semiannual and Annual Aircraft Utilization Report by Region and by Type of Air Carrier Operators.

The contents of the above reports contain proprietary information and, therefore, shall be marked: FOR OFFICIAL USE ONLY

e. Distribution of utilization reports is set forth in FAA Order 1340.3M (or subsequent revisions). The distribution volume is controlled to provide distribution to users who have working knowledge of the report code data and also have an administratively useful need for the information.

f. Utilization Report Improvement. Correspondence concerning the improvement of the utilization report system and significant problems found in using this reporting system should be addressed to the Air Transportation Branch, AWS-330.

1904.-1909. RESERVED.

OPER SYMBOL	DATE MO YR
JAJ	0275

TYPE LINE NET

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

AIR CARRIER

AIRCRAFT/ENGINE UTILIZATION REPORT

RIS: AC 8320-1
INSPECTOR NAME H. K. Jenkins
REGION-DISTRICT OFFICE RM37

AIRCRAFT			ENGINE				FLEET UTILIZATION			
MFG	MODEL	NO. ACFT	MFG	MODEL	NO. SO	NO. REM	FLEET DAYS	AIRCRAFT TOTAL HRS	ACFT HR Avg/Day	ENGINE TOTAL HRS
B	720062	2	PWA	JT3C7	1	1	56	342	6.1	1368
B	720048	1	PWA	JT3D1MC6	0	0	22	130	5.9	520
CV	24013	2	PWA	R2800103W	0	1	54	194	3.6	388
DE	DEC6300	3	PWA	PT6A20	0	0	82	426	5.2	852

REMARKS (Include - Engine TBO/Net Section Time Revision)

*The B 720 fleet engine overhaul schedule was converted to a reliability program effective 2-1-75. Hot section inspection remains at 3850 hours.

*The operator has changed the company name from JJ Airline to JJ International Inc.

SECTION 18. INSPECTION PROCEDURES TO BE FOLLOWED DURING STRIKES
OR LABOR DISPUTES

1910. PURPOSE. This section provides inspectors with procedures to be followed prior to, during, and after a strike or labor dispute.

1911. GENERAL. To assure continued airworthiness of an operator's fleet, special emphasis shall be placed on maintenance surveillance when a strike or labor dispute is anticipated, when the strike is called, and after settlement of a major strike.

1912. CAUTION. Under no circumstances shall inspectors express opinions to any party to a strike or labor dispute regarding issues involved, nor shall any such opinions be expressed in public. Our responsibility concerns safety only, and we must steer clear of any strike issues.

1913. INSPECTOR'S RESPONSIBILITY. It will be the responsibility of the assigned principal maintenance inspector to determine to what extent and at which locations additional surveillance will be required and to make the necessary arrangements for additional manpower as required.

1914. REPORTS. Air Carrier Maintenance Activities During Employee Strikes (RIS: FS 8320-6).

a. The assigned principal airworthiness inspector/maintenance will advise inspectors located in areas other than the certificate-holding region, who have been assigned to strike surveillance by their respective regional office, of the reports required and frequency of submission. Information usually considered necessary is as follows:

- (1) The approximate number of maintenance personnel on duty at each location within the inspector's assigned area.
- (2) The approximate number of certified maintenance personnel on duty.
- (3) The number and type of inspections performed by the operator.
- (4) The number and type of inspections performed by FAA inspectors.
- (5) Deficiencies noted.
- (6) Where deficiencies found are minor and of such a nature that they can best be handled locally, what corrective action has been requested of the operator?
- (7) Status of previous requests for corrective action.
- (8) Percentage of schedules being operated.
- (9) Any other information having a bearing on safety.

b. The assigned principal airworthiness/maintenance inspector shall:

(1) When he/she learns that a strike might be forthcoming, advise his/her regional office through channels and the Aircraft Maintenance Division, AWS-300, Washington, D.C., by telephone of the nature and extent of the possible work stoppage and tentative plans for strike surveillance.

(2) At the outset of a strike or labor dispute, advise his/her regional office through channels and the Air Transportation Division, AWS-300, Washington, D.C., by telephone of the nature and extent of the work stoppage and the plans for strike surveillance.

(3) Thereafter, on a weekly basis, submit a consolidated report through channels to the regional office and AWS-300, Washington, D.C.

(4) Advise the regional office and AWS-300 by telephone of any newsworthy or significant developments.

(5) Upon termination of the strike, notify the regional office and AWS-300 by telephone as to operator's plans to return to normal schedule and post-strike surveillance planned by the certificate-holding district office.

c. When aircraft have been in storage over a period of time, consideration should be given to the type of inspections the operator will conduct, ground run-up of engines, taxiing of aircraft, and possible test hop prior to returning aircraft to service.

d. In preparing and submitting these reports, please bear in mind that the region and Washington offices receive many inquiries, complaints, and opinions from such sources as the general public, Congress, and labor unions. It is of utmost importance that these offices be kept fully informed on a timely basis.

1915.-1919. RESERVED.

SECTION 19. OPERATIONAL CHECKS (FLIGHT TESTS)

1920. PURPOSE. This section provides the inspector with information to assist him in evaluating air carrier reports relative to operational checks after maintenance or alteration.

1921. GENERAL.

a. Inspectors shall be constantly alert for flight reports immediately following repair or alteration which indicate inadequate ground testing and inspection. Such reports should be a matter of investigation and review of the air carrier's maintenance manual for adequate instructions. Inspectors will be guided by the policy stated in FAR Section 91.167 regarding operational checks.

b. Should the air carrier's records indicate that existing FAR's do not provide the regulatory material needed to assure the safety of first flights after maintenance operations, it will be the responsibility of the assigned inspectors to submit recommended regulatory changes.

1922.-1925. RESERVED.

SECTION 20. AIR CARRIER MAINTENANCE AND INSPECTION
PERSONNEL DUTY TIME LIMITATIONS

1926. PURPOSE. This section provides the inspector with a clarification of airman duty time limitations imposed by FAR Section 121.377. FAR Part 135 does not address this subject.

1927. GENERAL. In response to requests for clarification of sections cited above, the following material has been issued:

a. The purpose of the duty time limitations for maintenance and inspection personnel is to require that such personnel be relieved of all duty for at least 24 hours during any 7 consecutive days, or for an equivalent amount of time during each calendar month.

b. The clause "or equivalent thereof within any 1 month" provides flexibility in the rule. It is intended to provide coverage for situations involving national emergencies as well as those unusual conditions that arise within the air carrier industry. Basically, it permits maintenance and inspection personnel to work continuously in any one calendar month provided they are given time off and away from work equal to the actual hours they would have been relieved from duty, had they worked 6 days with the seventh day off throughout the specific calendar month under consideration. This relief from duty must be given in increments of not less than 24 consecutive hours.

1928. GUIDANCE. The following examples are presented to further clarify duty time limitations.

a. In a 28-day month, a certificate holder must relieve a person performing maintenance or preventive maintenance functions for four 24-hour periods. These four relief periods may be given any time during the month, including the last four days.

b. A 24-consecutive-hour period of relief from duty when the employee is ill, on vacation, or injured is considered as a relief period of FAR Section 121.377.

c. The above clarification has been coordinated with the Office of the Chief Counsel.

1929.-1933. RESERVED.

SECTION 21. PREFLIGHT INSPECTIONS

1934. PURPOSE. This section clarifies the performance of preflight inspections by maintenance and pilot personnel.

1935. GENERAL. We have received inquiries from time to time regarding the performance of preflight checks by pilot and maintenance personnel. The pertinent regulations have been reviewed and this instruction is issued to clarify this matter.

a. The FAR's do not require the performance of a preflight inspection by maintenance personnel. However, if an air carrier or operator has a continuous airworthiness maintenance program or an approved aircraft inspection program (AAIP) in effect, which includes the performance of a preflight inspection or preflight check as an integral part of such program, that work must be performed by qualified A&P mechanics.

b. A pilot is required by FAR Section 91.29 to perform a preflight check prior to starting any flight. However, these checks are not a part of the approved inspection or maintenance program and should not be misconstrued to require that they be performed by A&P mechanics.

c. In order to readily separate the pilot personnel responsibilities from those of the maintenance personnel, some inspectors are using the terms "preflight check" in conjunction with the pilot responsibilities and "preflight inspection" with the maintenance responsibilities. This has been found satisfactory and is being offered as a suggestion to eliminate misinterpretation.

1936.-1939. RESERVED.

SECTION 22. MAINTENANCE OF PRESSURE CYLINDERS IN USE AS AIRCRAFT EQUIPMENT

1940. PURPOSE. This order establishes maintenance procedures to assure the integrity of pressure cylinders, that serve as aircraft equipment, in operations under FAR Parts 91, 121, 125, 127, and 135.

1941. BACKGROUND. The development of Department of Transportation (DOT) Regulations (CFR 49, Parts 100-199) pertaining to the transportation of dangerous articles and magnetized materials by aircraft was based on the applicable regulations of the Interstate Commerce Commission (ICC). Initially, the transportation of dangerous articles was prohibited in scheduled air transportation. Regulatory efforts were directed toward the transportation of dangerous articles with little attention given to similar dangerous articles used on board aircraft as part of a system or as required equipment. An example is the lack of specific FAR's prescribing airworthiness standards for pressure cylinders, for oxygen, fire extinguishers, and emergency air bottles which are part of life supporting systems.

a. Approval of pressure cylinders for use aboard aircraft is accomplished during type certification (FAR Part 21). Pressure cylinders may be approved by a Technical Standard Order (TSO) in conjunction with type certification procedures or in any other manner approved by the Administrator. The approval standards used are those established by the DOT Materials Transportation Bureau (DOT MTB) U. S. Coast Guard (USCG), Underwriters Laboratory (UL), manufacturers, and Military Specifications (MIL-SPEC).

b. FAR Part 21, Certification Procedures for Products and Parts, utilizes the specification requirement established by the DOT MTB, USCG, UL, manufacturers, and MIL-SPEC as the standards for approving pressure cylinders. Similarly, these provisions pertaining to inspection, retest, and life limits have been the basis for maintaining pressure cylinders under an air carrier's continuous maintenance program. At no time was a specific FAR established to prescribe manufacturing or maintenance requirements for pressure cylinders used on board aircraft. The means by which these cylinders were approved consisted of those sections of the FAR's allowing approval by methods acceptable to the Administrator.

c. FAR Parts 91, 121, 125, 127, and 135 do not prescribe rules pertaining to the inspection and test of pressure cylinders used on board aircraft. However, when approved by the Administrator, the provisions of Operations Specifications and inspection programs are rules which require precisely the same consideration as FAR's. In exercising this authority, the Administrator has, in the interest of safety, adopted the rules and regulations of the DOT MTB, USCG, UL, MIL-SPEC, and applicable manufacturers as acceptable methods for controlling the hydrostatic and life limits of pressure cylinders through Operations Specifications and inspection programs.

d. The absence of a specific FAA regulatory requirement pertaining to airworthiness standards for pressure cylinders is evident; however, it is also evident that there is no concentrated effort to discredit or discontinue the use of DOT hazardous material standards as a means of maintaining pressure cylinders.

e. Recognizing the lack of specific FAA test data necessary to consider cylinder aging, internal corrosion, external pressure changes, and extreme temperature changes, it is logical to accept those standards developed by the Materials Transportation Bureau and other experts for maintaining the integrity of pressure cylinders. It follows that pressure cylinders used on board aircraft should be maintained under the same specifications prescribed by the appropriate regulatory agency and the manufacturers, if no requirements are available for similar pressure cylinders transported in interstate commerce.

1942. PROCEDURES. Each principal maintenance inspector shall assure that the inspection, retest, and life limit requirements for pressure cylinders used as aircraft equipment are, at a minimum, those set forth by the appropriate specification requirement under which the cylinder was manufactured. These requirements shall be shown on the Operations Specifications for Parts 121, 125, 127, and 135 operators and shall be included in the inspection programs required by FAR Section 91.169. All other operators under FAR Part 91 must also comply with the provisions. Throughout this document, reference to "Operations Specifications" shall mean Operations Specifications or other approved controlling documents. Such approved controlling documents must be clearly identified and made part of the Operations Specifications by an appropriate reference on an Operations Specifications preface page.

1943. GUIDANCE AND USE IN PREPARATION OF OPERATIONS SPECIFICATIONS.

a. The format shown on Figure 6-32 will be used for all amended Operations Specifications relating to pressure cylinders. The intention is not to have all the pressure cylinders listed on one page. Figure 6-32 illustrates the various cylinders in use and how they will be listed when entering them in the proper sequence and ATA chapter of the approved Operations Specifications. For specifications that do not include aircraft maintenance pages listing systems by ATA chapter, the reference for pressure cylinder maintenance period requirements should be included on the general preface page. Pressure cylinder hydrostatic and life limits are listed by appropriate ATA chapter on the Operations Specifications in the following manner.

b. Cylinders made in accordance with a MIL-SPEC will be maintained in accordance with the applicable military specification.

c. DOT Specification, Manufactured cylinders will be maintained under DOT requirements and the Operations Specifications will contain the statement: "Inspections, hydrostatic test, and life limits will be accomplished as set forth in Part 173, Chapter 1, Subtitle B of Title 49 CFR currently in effect."

d. Foreign Manufactured Cylinders. The following statement will apply: "Inspection, hydrostatic test and life limits will be accomplished as set forth in the manufacturer's specifications currently in effect."

e. Marine, dry chemical portable fire extinguishers (stored pressure or cartridge-operated type). The following statement will apply: "Examinations, tests and inspections will be accomplished as set forth in Subparts 162.028 and 71.25, Chapter 1 of Title 46 CFR currently in effect."

1944. APPLICATION OF CFR 49, SECTION 173.301(c). CFR 49, Section 173.301(c), retest of container, states: "A container for which prescribed periodic retest has become due must not be charged and shipped until such retest has been properly made;" therefore, pressure cylinders used as aircraft equipment which remain charged on the due date of its hydrostatic test may remain in service beyond the test date providing that the cylinder is retested prior to its next full or partial refilling.

1945.-1949. RESERVED.

FIGURE 6-32. OPERATIONS SPECIFICATIONS - AIRCRAFT MAINTENANCE

UNITED STATES OF AMERICA DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION WASHINGTON		Form Approved OMB No. 04-R0075
Part D	Page 5 of 17	
OPERATIONS SPECIFICATIONS ABC AIRLINES, INC. AIRCRAFT MAINTENANCE BOEING 737-201/222/247		
	<u>Overhaul Period</u>	<u>Inspection & Check Period</u> A B C D OTHER
<u>Equipment and Furnishings, Chapter 25</u>		
Bottle Evacuation Slide Inflation (DOT-3HT)	12,000 *	A
<u>Fire Protection, Chapter 26</u>		
Cylinder CO ² (DOT-3A)	OC *	B
Sphere Fire Extinguisher (MIL-C-2284) (DOT-4DA)	*	A B C D
Marine Dry Chemical (stored pressure or cartridge-operated type)	**	A
<u>Landing Gear, Chapter 32</u>		
Bottle Air Emergency Landing Gear (MIL-C-7905) (DOT-3A)	16,000 *	B
<u>Oxygen, Chapter 35</u>		
Bottle - Oxygen Portable (DOT-3A)	OC *	A
Bottle - Foreign MFG	***	A B C D
Bottle - Oxygen Crew (DOT-3HT)	*	A
Bottle - Oxygen Passenger (DOT-3HT)	*	
<p>*Inspections, hydrostatic test, and life limits will be accomplished as set forth in Part 173, chapter 1, subtitle B of CFR 49 currently in effect.</p> <p>**Marine, dry chemical portable fire extinguishers (stored pressure or cartridge-operated type). The following statement will apply: "Examinations, tests and inspections will be accomplished as set forth in subpart 162.028 and 71.25, chapter 1 of CFR 46 currently in effect."</p> <p>***Foreign Manufactured Cylinders. The following statement will apply: "Inspection, hydrostatic test and life limits will be accomplished as set forth in the manufacturer's specifications currently in effect."</p>		
Effective date _____		

FAA Form 1014 (2-72)

SECTION 23. SERVICEABILITY OF USED ENGINES, PROPELLERS, AND COMPONENTS

1950. PURPOSE. This section provides information and guidance on procedures an operator should utilize for qualifying the serviceability of units that have accrued time in service in other operations.

1951. GENERAL. With the increase in leasing and cross utilization of aircraft many operators frequently experience the need to qualify engines, propellers, and aircraft components and equipment that have accrued time in service since new or overhaul. There are several areas of concern that should be resolved before the unit is authorized for service.

a. The unit must meet its basic approval criteria (type certificate, supplemental type certificate, technical standard order, etc.).

b. It must be in compliance with applicable airworthiness directives and life limits.

c. The model and modification status of the unit must be established with regard to its compatibility with the operator's fleet and with his inspection/maintenance program.

d. Significant maintenance, such as overhaul, modifications, and inspections, should be substantiated and the certification for such maintenance should be reviewed and incorporated into the aircraft records.

e. The last accomplishment of each task in the operator's continuous airworthiness maintenance program applicable to the unit, including overhaul should be established with regard to the interval and method of accomplishment. If this cannot be positively established, the operator should accomplish the task in accordance with his approved program.

f. If there is any question of the integrity of the previous operator with regard to operation or maintenance of the unit or if environmental aspects of the previous operator were adverse, special tests or inspections to determine its condition should be accomplished. For example, an engine might warrant a borescope inspection, oil spectrographic analysis, performance tests, or a comprehensive inspection such as a hot section inspection to ensure its serviceability with regard to the operator's standards.

g. If the unit has been out of service for an appreciable period, it must be determined that it was properly preserved, stored and protected during that period.

1952. APPROVAL FOR SERVICE. For aircraft under a continuous airworthiness maintenance program, the unit must be approved for service by responsible elements in the operator's organization. The operator's manual should designate the procedures and authority for the approval determination, including designation of persons with authority for judicial decisions such as what special inspections may be needed for a unit which may have suffered from abnormal operation, improper maintenance or a harsh environment. FAA approval is normally not required unless maintenance intervals are to be prorated or are

affected by a borrowed parts authorization. Proration and borrowed parts authorizations are approved by operations specifications. (Reference: Section 7 of this chapter).

1953.-1959. RESERVED.

SECTION 24. PROVING FLIGHTS AND PLACING NEW AIRCRAFT INTO SERVICE

1960. PURPOSE. This section provides information and guidance on the conduct of aircraft proving flights and the operation of provisionally certificated aircraft by certificate holders under FAR Parts 121, 127 and 135.

1961. AUTHORITY. The regulatory basis for proving flights is contained in FAR Parts 121 and 127. Limitations pertaining to the operation of FAR Sections 121.163, 127.73, and 135.145 provisionally certificated aircraft are set forth in FAR Section 91.41.

1962. GENERAL. Air carriers holding operating certificates issued pursuant to FAR Parts 121 or 127 are eligible for a Class II provisional airworthiness certificate for transport category aircraft only. FAR Section 91.41 authorized provisionally certificated aircraft to be used during FAR Parts 121 and 127 proving tests. However, in such a case, the operator will be advised that, if the fully type certificated aircraft differs substantially from the provisional aircraft, no credit will be allowed for proving tests conducted in the provisional aircraft. FAR Section 91.41 requires approval from the Director of Flight Operations, or Director of Airworthiness (as appropriate), for the operation of provisionally certificated aircraft in air transportation. It is agency policy to authorize the carriage of cargo and mail only in air transportation using provisionally certificated aircraft. Requests to carry persons in addition to those listed in FAR Sections 121.547(c) and 127.211(c) will be referred to the Washington office together with the recommendation of the regional Flight Standards Division.

1963. PROVING FLIGHT REQUIREMENTS. Proving flights fall into the categories listed below:

a. Certification of a New Carrier. Proving flights will be required in accordance with the applicable air carrier rules.

b. Use of an Aircraft not Previously Used in Scheduled Air Carrier Service. Proving flight must be conducted by the air carrier first introducing a particular type of aircraft into scheduled service.

c. Use of Aircraft on Which Major Design Changes Have Been Made. The need for proving flights in this category will depend upon the extent of the changes from a maintenance and servicing standpoint. An example of a change that might require proving flights would be the replacement of reciprocating engines with turbine engines. Each case will be decided on an individual basis after consideration has been given to the scope of the changes involved and to the training received by maintenance and servicing personnel.

d. Use of an Aircraft Type not Previously used by the Air Carrier Involved. This category involves an aircraft type that has previously been approved for scheduled service but is new to the operation of a particular air carrier. This is an optional category and a determination as to whether or not a proving flight should be required for maintenance purposes depends largely on the adequacy of the air carrier's training program for mechanics and servicing personnel.

e. There have been cases where the excellence of an air carrier's training program eliminates the necessity for a proving flight to authorize the carrier's use of the new type aircraft. In other cases, proving flights have been required when a review of the air carrier's training program indicated that possibly the proposed operation could not be conducted in accordance with accepted safety standards. In such cases, it may be desirable to withhold authorization until such time as the training program is adequate in all respects. It is quite possible that the air carrier, in improving its training program prior to the proving flight, would preclude the necessity of conducting the proving flight.

f. Route Approvals. This category involves new routes, route extensions or different types of authorization over a previously approved route. From a maintenance and servicing standpoint, proving flights in this category should seldom be necessary if proper preparations and personnel training by the air carrier have been accomplished. However, if there is an indication that the proposed operations could not be conducted in accordance with accepted safety standards, action to improve training or an actual proving flight may be necessary.

1964. AIRCRAFT PROVING TESTS.

a. Operator's Plans. The FAA Inspector designated as in charge of a proving flight should obtain from the air carrier a proving flight program outlining in detail the manner in which the tests are to be conducted and the procedures to be followed. The inspector will assure that the operator's plans in this regard include a list of company personnel that will participate. This list must also include noncompany personnel that the operator desires to participate.

b. Participants. FAR Section 91.41 limits participation to those considered necessary by the operator to conduct the test and those designated by the Administrator. The phrase "designated by the Administrator" as used in this section is intended to mean those FAA personnel needed to make the necessary judgments to determine compliance with the applicable provisions of FAR Parts 121, 127, and 135. Applicable FAR sections do not provide for participation by other Government employees such as air traffic controllers, airport personnel, and National Transportation Safety Board (NTSB) personnel.

c. FAA Inspection Team. The FAA inspection team responsible for conducting the proving test is normally composed of an operations inspector, a maintenance inspector and an avionics inspector. Assignments will be made by the supervising inspector with one inspector designated as in charge of the team, thus serving as the Administrator's representative in dealing with the operator.

1965. EN ROUTE PHASE. Ideally, the en route phase of the aircraft proving tests should consist only of the crew and the FAA inspection team, since the en route phase is a dress rehearsal where the operator demonstrates that the operation can be conducted pursuant to FAR Parts 121 and 127 without help from company supervisors or representatives of the aircraft manufacturer. These flights must also be devoid of distractions by interested but "nonessential" personnel. However, it must be recognized that the ideal situation is not

always the practical one. From the operator's standpoint, it is highly desirable to have on board company supervisors who can make decisions and commitments on behalf of the company concerning schedule changes or company actions to correct deficiencies observed during the flight. Since company commitments in this regard will often require consultation with representatives of the aircraft manufacturer, their presence on board is appropriate. By the same token, it is desirable to invite key FAA personnel and inspectors from other regions, who will be assigned inspection duties on the particular aircraft, to participate as observers. The number of persons on board in excess of the crew and FAA inspection team should be kept to a reasonable minimum.

1966. ITEMS TO BE OBSERVED ON PROVING FLIGHTS. FAA personnel should carefully observe all phases of the proving flight relating to their specialties to assure that the proposed operation can be conducted safely. This includes in-flight observation as well as observation of maintenance and servicing by ground crews. The following are items which should be observed when conducting proving flights:

a. Proper training of the carrier's maintenance and servicing personnel; e.g., need help from manufacturer or company supervisors, not familiar with aircraft systems.

b. Aircraft component and system malfunctions; e.g., were the malfunctions the result of poor design? Improper operations? Was corrective action adequate?

c. Adequacy and availability of company maintenance manuals.

d. Adequacy and use of minimum equipment list.

e. Fueling facilities along route and servicing procedures.

f. Adequacy of specialized maintenance tools and servicing equipment along routes. En route and terminal maintenance facilities, including adequate spare parts.

1967. UNSATISFACTORY ITEMS OBSERVED DURING PROVING FLIGHTS.

a. Unsatisfactory conditions noted by field personnel should be brought to the attention of the air carrier for corrective action. The carrier should correct these discrepancies before any further proving flights are conducted unless the discrepancies are of such minor nature that there would be no detrimental effect on their continuance. However, all unsatisfactory items must be corrected to the satisfaction of assigned inspectors before their approval of the proposed operation.

b. Before submitting the proving flight report, the FAA employee in charge of the proving flight will forward to the carrier a list of any unsatisfactory items noted during the flights which must be corrected before approving the proposed operation. The air carrier should then furnish a letter or otherwise show that the unsatisfactory items have been corrected. Copies of any correspondence will be included in the final proving flight report.

1968. REPORTS, AIRCRAFT PROVING TESTS AND ROUTE PROVING FLIGHTS
(RIS: FS 8430-9).

a. The report prepared by the FAA inspection team will be divided into subparts conforming to the applicable subparts of FAR Parts 121 and 127.

b. Each subpart of the report will clearly explain how the operator demonstrated compliance with the corresponding subparts of the regulation.

c. The report will contain a record of meetings, discussions, and agreements with the operator. Include a record of agreements concerning actions taken by the operator to correct observed deficiencies and the basis of FAA determinations of satisfactory corrective action.

1969. DISTRIBUTION. The district office will forward one copy of the report within 30 days after completion of the aircraft proving tests or route proving flights (through channel in accordance with regional instructions) to the Aircraft Maintenance Division, AWS-300, for review of the report and for any necessary followup action.

1970.-1979. RESERVED.

SECTION 25. MAINTENANCE AND INSPECTION PERSONNEL TRAINING

1980. GENERAL.

a. The regulatory requirement for training programs applies to aircraft under continuous airworthiness maintenance programs.

b. In general terms, the scope of a maintenance and inspection personnel training program should be sufficient to ensure that aircraft to be operated by an air carrier are maintained at a high level of airworthiness. In this respect, the individuals who are authorized to perform the inspection of required inspections must be properly trained. The degree of such training is dependent upon the individual's experience and the complexity of the work he/she is authorized to perform. In some cases, the work may be complex and require the use of specialized equipment. Therefore, the type of training necessary may range from an "open book" examination and on-the-job training to formal classroom training. In any case, the individual is expected to be sufficiently trained to be competent to perform the work as authorized.

c. The size of the air carrier should make no difference in the need for an effective training program. However, a small operator should not be expected to duplicate all the training facilities normally provided by a large operator. The use of contract facilities or other means which provide equivalent training may be utilized in complying with the regulatory requirements.

1981. TRAINING PROGRAM EVALUATION.

a. Special emphasis in training program surveillance is necessary under certain changing conditions which affect an operator's operating procedures or maintenance organization. Examples of such conditions are: acquisition of aircraft new to the operator, acquisition of additional numbers of currently used aircraft, significant increase in daily utilization, and high turnover of maintenance personnel.

b. The need for special maintenance and inspection training programs required by the introduction of new or different types of aircraft should be discussed with an operator well in advance of delivery date. It is apparent that the most important aspects of this type of training are:

(1) Training of sufficient personnel prior to aircraft delivery.

(2) Familiarization of personnel with aircraft after arrival and prior to entry into service. It is particularly significant that this phase of training receive careful advance planning in order that the importance of early on-the-job training will not be minimized.

(3) Training and familiarization of personnel on a continuing basis. The scope of the training program would be expected to be extensive until all of the operator's personnel become thoroughly familiar with their assigned duties.

c. In addition to day-to-day observation of the performance of an operator's maintenance and inspection organization, the following points are included as pertinent to monitoring the adequacy of the training program:

(1) Is the training received throughout an operator's system of equal quality and effectiveness?

(2) Are the procedures and techniques taught being utilized during inservice performance of maintenance inspection duties?

(3) Review of service records (logbooks, inspection records, etc.) provides a source of information which relates to training effectiveness.

(4) Notice should be taken of instances in which a malfunction was due to personnel error and consideration given to the possibility of the need for further training for one or more of the persons involved, or for other members of the maintenance organization.

1982.-1989. RESERVED.

SECTION 26. SPOT AND RAMP INSPECTIONS

1990. PURPOSE. This section provides the inspector with information pertinent to the performance of maintenance spot and ramp inspections.

1991. GENERAL. Maintenance spot and aircraft ramp inspections are means of sampling the quality of maintenance and the degree of compliance with established maintenance standards and procedures.

a. Spot and ramp inspections should cover a variety of areas and range in scope from an inspection of an entire aircraft to a review of a particular maintenance function. If a weakness is known or suspected in a particular part of an aircraft or in a particular phase of maintenance, emphasis should be placed in these areas. A surveillance program generally covering all areas of maintenance activities will result in a determination of the areas that warrant a concentration of effort.

b. Spot and ramp inspections should be conducted with a minimum of interruption to maintenance operations and passenger handling. The inspector will advise the person in charge of the affected maintenance as to his (the inspector's) mission and area of interest. He will normally discuss activities with mechanics and inspectors, but will address complaints or the need for corrective action with appropriate supervisory or management personnel.

1992. MAINTENANCE SPOT INSPECTIONS. Maintenance spot inspections are the primary surveillance activity used by maintenance and avionics inspectors for certificate holders under FAR Parts 121, 127, and 135. They are observations and analyses of in-progress maintenance operations for overall quality, conformity to the operator's inspection or maintenance programs, compliance with specified methods, techniques, and practices, competency of personnel, and adequacy of facilities. All of this is viewed from the standpoint of the effectiveness of the operator's management control and support.

a. Spot inspections should consider the following:

(1) Availability of and compliance with the policies, procedures and practices published in the operators' manuals or other technical material applicable to the work in progress.

(2) Adequacy of facilities support equipment relative to proper accomplishment of the work.

(3) Competency of personnel, including indication of adequate training.

(4) Parts availability.

(5) Execution of paperwork and that proper work forms are used and accounted for.

(6) Work environment including disruptions due to job reassignments, shift change continuity.

(7) Currency of test equipment calibration dates.

(8) Compliance with RII items (as appropriate).

b. Spot inspections of scheduled aircraft checks or inspections should be programmed and should consider, in addition to item (a) preceding:

(1) Quality of inspection writeups and related corrective action entries.

(2) Use of procedures to negate or modify inspectors writeups with particular regard to concurrence by the quality control organization.

(3) Control and accountability of routine and inspection writeup forms.

(4) Availability of and use of instructions and standards for work being performed.

(5) Control of deferred and carryover items.

(6) Production and quality control turnover procedures.

c. Spot inspections should also be programmed for shop activities.

d. Spot inspections should be accomplished on work performed by contract agencies. A particular consideration is the relationship between the operator and the agency regarding the responsibilities of each party and accountability for those responsibilities.

1993. RAMP INSPECTIONS. Ramp inspections are inspections of inservice aircraft in the operational environment. Their purpose is to determine the maintenance of the aircraft by direct inspection rather than by evaluation of in progress of maintenance. Observation of refueling, passenger handling, and ground equipment usage is normally accomplished during the check.

a. Guidelines to follow during maintenance ramp inspections:

(1) Maintenance Manual.

(a) Copy aboard if required. Note revision currently.

(2) Aircraft Logbook.

(a) Pilot complaints.

(b) Correction of service difficulties.

(c) Chronic Mechanical difficulties.

(d) Carryover items.

(e) Inspection time limits.

(3) Exterior of Aircraft.

- (a) Fuselage.
- (b) Wings.
- (c) Control surfaces.
- (d) Empennage.
- (e) Wheels and tires.
- (f) Landing gear.
- (g) Leaks -- fuel, oil, hydraulic.

(4) Interior of Aircraft.

- (a) Seats.
- (b) Seatbelts.
- (c) Placards.
- (d) Signs.
- (e) Emergency equipment.

b. The above ramp outlines are cues to general areas of coverage. The individual inspector will use the cue as a tool for prompting his memory in light of his/her general knowledge and his/her knowledge of a particular airplane and/or operator. Examples might be as follows:

"The cue"SeatsWhat the Cue Might Bring to Mind

1. That in all aircraft the security of seat attachment to the structure is of paramount importance.
2. In airplanes using floor rails, both the rail-locking device and the seat-attachment fitting are subject to breakage. The seat floor rails often become filled with debris which prevents proper locking.
3. High-density loading often involves breakaway back seats which are subject to maintenance and location problems.

Oxygen

1. Is the capacity and pressure up to standards?
2. Are masks clean, protected, and sufficient in number?

Emergency Exits

1. Are there sufficient number of exits for the number of seats installed? Are any exits blocked by seats or equipment?
2. Are they placarded properly and legibly?
3. Do the emergency lights illuminate the exits sufficiently and properly?

c. The above examples are only a few of the infinite number of significant items that can be cued by the ramp inspection outlines. Each make and model airplane has its own problem areas and, upon inspection, these areas should be checked first. Time and circumstances will control the extent of the inspection toward the ultimate or complete inspection. In any case, the problem areas or suspect areas should always be checked.

1994. REPORTING SPOT AND RAMP INSPECTIONS.

a. Spot and ramp inspections are reported on FAA Form 3112 (RIS: FS 1380-8). In addition to the block entries, a narrative entry should be made to record the location and a brief description of the particulars of the inspection. Discrepancies should be adequately defined and resultant action by the inspection should be recorded. The need for further action needed or planned by the reporting or certificate holding office should be clearly identified.

b. The original of the form will be forwarded, if applicable, to the district office with certificate responsibility. A copy will be retained in the reporting inspector's district office. Additional distribution will be as directed by the controlling region.

c. Distribution will be shown on all copies of the Form 3112.

d. Additional action taken in response to a 3112 entry should be noted or cross-referenced on the certificate holding office's copy of the Form 3112.

1995.-1999. RESERVED.

SECTION 27. EN ROUTE INSPECTIONS

2000. PURPOSE. This section outlines procedures to be followed by airworthiness inspectors when conducting and reporting en route inspections. En route inspections shall be conducted in conjunction with other functions as specified in the program guidelines.

2001. AUTHORITY. The regulatory basis for the accomplishment of en route inspections is contained in FAR Sections 121.548, 127.212, and 135.75.

2002. EN ROUTE INSPECTIONS. With the rapid advance in technology and sophistication of today's aircraft, en route inspections should be considered a useful tool in the overall assessment of an operator's total airworthiness program management.

2003. PERSONNEL AUTHORIZED TO CONDUCT EN ROUTE INSPECTIONS. Only Federal Aviation Administration personnel, who are qualified and currently assigned to duties which involve inspection and surveillance functions on air carrier operating certificate holders or operating certificate holders, will conduct en route inspections in connection with their assignment. Supervising inspectors, principal airworthiness inspectors, and airworthiness specialists assigned to the region and Washington offices may also conduct familiarization or surveillance en route inspections as appropriate to their specialities.

2004. QUALIFICATIONS.

a. Inspectors authorized to conduct en route inspections must possess an Aviation Safety Inspector's Credential, FAA Form 110A. Inspectors assigned to certificate holders with operations under FAR Part 121 should have completed the Air Carrier Maintenance/Electronics Indoctrination Course No. 21601; or the General Aviation Maintenance/Electronics Indoctrination Course No. 21603 and the Air Carrier Airworthiness Indoctrination (Abbreviated) Course No. 21618. Inspectors assigned to certificate holders with operations under FAR Part 135 should have completed either the Air Carrier or the General Aviation Maintenance/Electronics Indoctrination Course and the Air Taxi Certification and Surveillance Course No. 21828. Regional Flight Standards division managers may approve a deviation from these training requirements for airworthiness inspectors with en route inspector experience on operations under either FAR Parts 121 or 135 whose assigned air carrier or operator is operating aircraft under both operating rules.

b. When an inspector desires to board an operator's aircraft for the purpose of making an en route inspection, he will identify himself to the carrier or operator's representative by presenting his FAA Form 110A.

2005. ACCESS TO AIRCRAFT. A "request for access to aircraft" form is issued to the operator for each en route inspection by the inspector conducting the inspection. One type form (SF-160) is used for air carriers holding Certificates of Public Convenience and Necessity (CC&N) issued by the Civil Aeronautics Board (CAB) and other operators. Issuance of forms to field inspectors will be controlled by the district office manager with regard to the inspector's qualifications.

a. Air Carrier - CC&N Holders under FAR Parts 121, 127, or 135.
Standard Form 160, Request for Access to Aircraft or Free Transportation, is used for carriers in this group and is issued only to inspectors so assigned.

(1) The inspector will prepare Standard Form 160, "Request for Access to Aircraft or Free Transportation," in triplicate. The original of the SF-160 will be given to the operator. The second copy (white) will be retained in the office of the inspector issuing the form and may be disposed of after 1 year. The green copy may be retained by the inspector.

(2) Presentation of the Standard Form 160 should be made at the office of the air carrier sufficiently in advance of flight departure time to confirm the availability of the observer's seat, to allow the inspector time to meet the flightcrew and to observe the preparations for the flight. At this time, any special activities which the inspector might wish to engage in during the flight can be discussed.

(3) Preparation of the Standard Form 160 is largely self-explanatory and follows the sample form shown in Figure 6-33 of this section. A line will be drawn through the words "or free transportation" and "space available basis." An "X" will be placed in the "must fly" square. The number of the inspector's FAA Form 110A will be inserted in the "Credential No." block. The "Tariff Value" block will be left blank.

(4) Inspectors conducting en route inspections will occupy the observer's seat specified by the Administrator in accordance with FAR Sections 121.581, 127.212, or 135.75. Airworthiness inspectors will not occupy the center observer's seat on B-737 airplanes when the operator has assigned duties to a third pilot crewmember.

(5) A record of every Standard Form 160 issued will be made on the inside cover of the forms request book. When all request forms in a book have been used, the book cover will be returned to the issuing office. The record of requests will be reviewed and initialed by appropriate supervisory personnel to indicate concurrence that the en route inspections performed fell within the scope of the inspector's assignment. The book covers may be disposed of 1 year after the date of the last form issued. When an inspector leaves the agency or has no further use for the book of forms, it is to be returned to the issuing office. If an inspector loses a book, full details concerning the loss shall be reported immediately to his supervisor.

b. Air carriers Under CAB Part 298 Exemption, Commercial Operators, and All-Cargo Certificate Holders, Under FAR Parts 121 or 135.

(1) An inspector preparing to board one of these operator's aircraft for the purpose of an en route inspection will issue Request for Access to Aircraft, FAA Form 8430-13, (reference Figure 6-34) to the operator or its representative. The original will be presented to the operator and a copy retained in the office of the issuing inspector for 1 year and then destroyed. The policies and procedures specified in a(5), preceding, for Standard Form 160 are also applicable to the FAA Form 8430-13.

(2) The inspector should be at the operator's dispatch office or at the airplane departure area in sufficient time prior to departure to meet the flightcrew, confirm the availability of the observer's seat, and to observe preparation for the flight. At this time, any special activities which the inspector might wish to engage in during the flight can be discussed.

c. Access to foreign air carrier aircraft. Air carrier airworthiness inspectors will not conduct en route inspections on foreign air carrier aircraft.

d. Timeliness of request for access to aircraft. Inspectors conducting en route inspections will make arrangements for the observer's seats as far in advance of the flight as possible. Where practicable, an en route inspection should be planned to preclude disruption of company scheduled flight checks by check airmen. If the situation arises where a required company check is being conducted from the forward observer's position, the inspector will reschedule his en route inspection. When a specifically required FAA en route is to be conducted, prior coordination should be accomplished through the principal airworthiness inspector. When it is necessary to board a flight at an intermediate stop, the inspector will make every effort to advise the pilot-in-command, prior to boarding the flight, that an FAA inspector will be conducting an en route inspection. In any case, the inspector will introduce himself/herself to the pilot-in-command, present his/her credential (FAA Form 110A), at this time, and advise him/her of his/her intentions.

e. Denial of access to cockpit. If for any reason the pilot-in-command refuses an inspector admission to the flight deck or the occupancy of the forward observer's seat, the inspector shall apprise the captain of the appropriate regulations authorizing the inspector to occupy this position (reference FAR Sections 121.548, 125.317, 127.212, and 135.75). If the pilot still refuses, the inspector will accede to the pilot's wishes; however, prior to leaving the presence of the pilot, the inspector will make it very clear that the pilot's actions are contrary to the regulations and that enforcement action will be taken. Immediately upon return to his/her office, the inspector will describe the occurrence in a report to his supervisor.

f. Nonauthorized use of Standard Form 160 or FAA Form 8430-13. Under no circumstances shall the Standard Form 160 or FAA Form 8430-13 be used for transportation for personal reasons. Also, it will not be used in lieu of a Government Transportation Request (GTR) for travel to or from a point where an inspection is to be conducted, unless actual en route inspection duties are to be performed.

2006. PERFORMANCE OF EN ROUTE INSPECTIONS. It is important that inspectors conducting en route inspections be familiar with the operating procedures and facilities used by the operator prior to conducting such inspections. The overall purpose of en route inspection was discussed in Paragraph 2002. The items listed below are intended to direct the inspector's attention to specific areas.

- a. Predeparture check of aircraft. A walkaround check for security and general condition should be accomplished prior to departure. When applicable, an effective method of accomplishment is to accompany the flight engineer when he/she performs his/her predeparture check.
- b. In-flight conditions (aircraft/engines/systems). All systems should be monitored for proper operation.
- c. Line maintenance and ground handling. Availability, operation and handling of ground equipment, parking and dispatching of aircraft, passenger safety precautions on ground, and line maintenance functions should be observed for adequacy.
- d. Refueling of aircraft. As time permits, check trucks and/or pit for proper fuel identification, leaks and general condition, proper grounding of equipment, fuel pressure at truck outlet for being within proper limits, filter dates, and sump checks.
- e. Maintenance logbook (open/repeat/trend items). A review of the aircraft logbook will often direct an inspector's attention toward specific items that warrant special attention during flight. If chronic or trend items recur during the flight, the log entries should be reviewed to see if they properly describe the condition as it exists. Any deferred items should be reviewed to determine if they are in compliance with the MEL. Corrective action entries should be checked for maintenance release signatures. If maintenance discrepancies or irregularities are observed during flight and items to cover them are not entered in the logbook, the pilot-in-command must be advised upon termination of the flight of the regulation requiring the entry of such items.
- f. Manuals on board per FAA requirements. Manuals, as required, should be checked for availability and currency. To determine if they are up-to-date, the list of revisions should be checked against the master.
- g. Passenger compartment safety compliance with FAA requirements. This inspection should be conducted prior to/or at the termination of the flight when no passengers are on board.
- h. General safety procedures and conditions. This pertains to all areas of surveillance: Preflight, in-flight, and at flight termination.

NOTE: A maintenance inspector's surveillance should be directed primarily to but not limited to the above items. To fulfill the FAA's obligation, it is an inspector's duty to report all conditions coming to his attention which he believes have a bearing on the safety of flight.

2007. GENERAL.

- a. Flightcrew discrepancies. Whenever discrepancies involving the performance of the pilot-in-command or other flight crewmembers come to the attention of the inspector, he will discuss this with the pilot-in-command.

He/she should also state that he/she will inform the appropriate operations inspector of his/her findings, who will, in turn, supply the pilot-in-command with a written report should the situation warrant its being made a matter of record. This procedure is not intended to curtail the duties and responsibilities of the maintenance inspector but establishes a procedure to assure that flight crewmember discrepancies are evaluated by an operations inspector before further referral to the pilot-in-command.

b. Maintenance discrepancies. In addition to the formal recordation of maintenance discrepancies as described in paragraph 2008, all discrepancies should be discussed with the pilot-in-command upon flight termination. Quite often, particularly where 3-man crews are used, the pilot-in-command will defer to the second officer or flight engineer.

c. Potential violations. Prior to and during en route inspections, the inspector must be alert to point out any potential violations prior to their occurrence and inform the crew of the possible consequences.

d. Handling of aircraft controls. In the event that the pilot-in-command of the flight should invite an airworthiness inspector to handle the controls of the aircraft, he/she should politely decline. It is recognized that certain airworthiness inspectors possess pilot or flight engineer certificates or have sufficient experience to enable them to control an aircraft or perform other in-flight functions; however, it is in the best interest of the agency that this "hands-off" policy be followed.

e. Night operations. During night operations, inspectors should exercise caution in the use of lights in the cockpit area for reviewing logbooks or for any other function. No light in the cockpit area should be turned on by an inspector without the knowledge and concurrence of the pilot-in-command. Care must be taken at all times to refrain from diverting the attention of flight crewmembers from their respective duties.

f. Earphones provided for flight crewmembers shall not be used by inspectors. Headsets will be provided for inspectors by their district offices.

g. Inspectors' conduct. In the performance of their duties, the actions and bearing of all inspectors are constantly subject to the close scrutiny and comment of airline employees and the general flying public. It is imperative that tact and good judgment be exercised at all times.

2008. REPORTING EN ROUTE INSPECTIONS.

a. An en route inspection report shall be executed for each segment of a flight that culminates in one or more of the following:

- (1) The inspector leaves the flight.
- (2) The flight number is changed.

- (3) The flightcrew is changed.
- (4) The equipment is changed.

b. FAA Form 3112, Inspection and Surveillance Record, is to be used for recording the results of en route inspections (Figures 6-35 and 6-36 of this section).

c. This form is used for reporting a variety of functions and is not specifically adapted to reporting en route inspections. For this reason, care must be taken to include the following additional essential information:

- (1) Standard Form 160 or FAA Form 8430-13 number.
- (2) Name of operator.
- (3) Aircraft registration number.
- (4) Aircraft model.
- (5) Trip number and date.
- (6) Name of pilot-in-command.
- (7) Point of departure.
- (8) En route stops.
- (9) Destination.
- (10) Region and district office designation of the performing inspector will be entered alongside of his signature.

d. Under Item 8, findings/recommendations of FAA Form 3112, the items listed in paragraph 2006 should be addressed on an individual basis as appropriate. For example, if the "refueling of aircraft" was not witnessed, say that you did not witness it; if it was witnessed and found to have been satisfactorily performed in accordance with approved company procedures, say so; if, on the other hand, the procedure was found to be unsatisfactory for one reason or another, spell out that reason and describe what corrective action you plan to take. Avoid brief notations such as "satisfactory," "normal," or "no discrepancies" wherever possible. More often than not, some detailed comment is called for, appropriate, and necessary. This is, after all, a record of the inspector's observations from preflight to flight termination.

e. In all cases where known or suspected discrepancies have been observed which require coordination with other specialists, such coordination and action should be noted under Item 8, Findings/Recommendations, as well as any corrective action which has been initiated.

f. While there may be occasions when it will be to the inspector's advantage to record certain in-flight instrument readings, it is not intended that this form be used to record detailed data which merely confirms a normal operation. Its primary purpose is to record abnormal conditions and assist in the correction of discrepancies.

2009. DISTRIBUTION OF FAA FORM 3112 (RIS: FS 8320-8).

a. The original will be forwarded, if applicable, to the district office having certificate responsibility.

b. One copy will be retained in the reporting inspector's district office.

c. Distribution will be shown on both copies of the FAA Form 3112.

2010. FOLLOWUP ACTION ON REPORTED DISCREPANCIES. Upon receipt of an en route inspection report, the assigned principal airworthiness inspector/maintenance (PAI/M) shall carefully review it for any reported discrepancies. If the discrepancies are in his/her area of responsibility, he/she shall initiate necessary corrective action and keep the report pending until such action has been completed. At the time corrective action is initiated, the assigned PAI/M shall, if requested, advise the reporting office accordingly. Where reported discrepancies concern other specialists (e.g., avionics, operations), such discrepancies shall be brought to the attention of the appropriate principal inspector (PI) for necessary followup action. The office supervising inspector shall assure that prompt followup action is taken by his inspection staff on all reported discrepancies.

2011.-2019. RESERVED.

FIGURE 6-33. SAMPLE STANDARD FORM 160, REQUEST FOR ACCESS TO AIRCRAFT OR FREE TRANSPORTATION

<p>Standard Form 160 approved by Bureau of the Budget 160-102-02</p>	<p>UNITED STATES OF AMERICA</p> <p>REQUEST FOR ACCESS TO AIRCRAFT OR FREE TRANSPORTATION</p>	<p>Pursuant to the REGULATIONS of the CIVIL AERONAUTICS BOARD access to aircraft or free transportation is requested for the person herein named on a <input checked="" type="checkbox"/> must fly or <input type="checkbox"/> space-available-basis.</p> <p>REASON FOR REQUEST Inspection during flight</p>
<p>NAME OF CARRIER Chosen Airlines</p>		<p>FLIGHT NO. 390</p> <p>HOUR AND DATE 2200 PDT/4-2</p> <p>TARIFF VALUE \$</p>
<p>FROM Albuquerque</p> <p>TO Las Vegas</p> <p>NAME OF TRAVELER I. M. Friendly</p>		<p>SIGNATURE OF TRAVELER <i>I. M. Friendly</i></p>
<p>TITLE OF TRAVELER Air Carrier Inspector</p> <p>MDOTRS. FEDERAL AVIATION AGENCY</p>		<p>CREDENTIAL NO. 46</p> <p>LOCATION San Francisco AVE-ACDO-33</p>
<p>SIGNATURE OF REQUESTING OFFICER <i>I. M. Friendly</i></p> <p>TITLE Air Carrier Inspector</p>		<p>DATE 4/2/81</p>

FIGURE 6-34. SAMPLE FAA FORM 8430-13, REQUEST FOR ACCESS TO AIRCRAFT

DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION		REQUEST NO. 69071	
Pursuant to the regulations of the Federal Aviation Administration access to aircraft is requested for the person herein named on a <input checked="" type="checkbox"/> must fly <input type="checkbox"/> space available basis only			
INSPECTOR'S NAME-PRINT I. M. FRIENDLY			
INSPECTOR'S TITLE AIR CARRIER INSPECTOR			
HEADQUARTERS (City and State) SAN FRANCISCO, CALIFORNIA			
CREDENTIAL NO. 46			
INSPECTOR'S SIGNATURE <i>I. M. Friendly</i>			
NAME OF OPERATOR GHI AIRLINES			
DATE SEPTEMBER 11, 1981		TIME 0900 PDT	FLIGHT NO. 421
ROUTE (S) FROM SALT LAKE CITY, UTAH TO OAKLAND, CALIFORNIA			
PURPOSE EN ROUTE INSPECTION			
FAA Form 8430-13 (1-72) SUPERSEDES FAA FORM 3689			

FIGURE 6-35. FAA FORM 3112, INSPECTION AND SURVEILLANCE RECORD

INSPECTION AND SURVEILLANCE RECORD			
1. WORK ACTIVITY EN ROUTE INSPECTION - SF-160 NO.		2. UNITS	3. HOURS
4. NAME AND ADDRESS OF CARRIER, OPERATOR, AIRPORT, AGENCY, OR AIRMAN XYZ Airways Flight 421, 9/11/80, From SLC to OAK Capt. E. V. Ready	5. CERTIFICATE NO. OR AIRCRAFT REGISTRATION MARK (No.) DC-6B N-1234	6. RESULTS	
		<input checked="" type="checkbox"/> SATISFACTORY	7. FURTHER ACTION REQ.
		<input checked="" type="checkbox"/> UNSATISFACTORY <i>(Explain in item 8)</i>	<input checked="" type="checkbox"/> NO <i>(Explain action in item 8)</i>
8. FINDINGS/RECOMMENDATIONS			
<p>1. Accompanied flight engineer-----on his walkaround prior to departure. Right strut was being serviced by ground crew - aircraft very clean. No irregularities noticed. Thorough check made by flight engineer.</p> <p>2. In-flight conditions. All normal except:</p> <p style="margin-left: 20px;">a. No. 1 engine S/C oil pressure indicator previously placarded "inoperative." S/C oil temperature and oil pressure warning lights operate okay.</p> <p style="margin-left: 20px;">b. No. 3 engine BMEP indicator became inoperative in climb. All other engine indications and operation remained normal.</p> <p>3. Line maintenance and ground handling at SLC good. At OAK, passengers were unloaded at terminal and aircraft was then towed to XYZ Airways' hangar for a base check.</p> <p>4. Refueling at SLC accomplished satisfactorily and in accordance with company procedures.</p> <p>5. Maintenance logbook was reviewed from page 2798, 9/1/80, to page 2817, 9/11/80. All in order. No trend items. No. 1 S/C oil pressure indicator had been written up into SEA on the morning of 9/10/80 and deferred out of that station in accordance with the MEL. Corrective action is scheduled for this visit at the main base.</p> <p>6. Manuals carried by flight engineer. Latest m/m rev. #63 dated 1/13/81.</p> <p>7. Passenger compartment safety compliance okay except found one water extinguisher in rear coatroom with broken seal. Brought to attention of maintenance supervisor on duty and it was replaced prior to flight.</p> <p>8. General safety procedures and conditions all okay.</p>			
<i>(If more space is required, use reverse side)</i>			
OPERATIONS	DATE	REGION AND DISTRICT OFFICE	INSPECTOR'S SIGNATURE
<input checked="" type="checkbox"/> MAINTENANCE			
AVIONICS			
		AWE-ACDO-33	J. Doe

FIGURE 6-36. FAA FORM 3112, INSPECTION AND SURVEILLANCE RECORD

INSPECTION AND SURVEILLANCE RECORD			
1. WORK ACTIVITY EN ROUTE INSPECTION - SF-160 NO.		2. UNITS	3. HOURS
4. NAME AND ADDRESS OF CARRIER, OPERATOR, AIRPORT, AGENCY, OR AIRMAN ABC Airline Flight 390, 12/20/80, from ABQ to LAS Capt. I. M. Able		5. CERTIFICATE NO. OR AIRCRAFT REGISTRATION MARK (No.) B-707-373 N-2345	
		6. RESULTS	
		<input checked="" type="checkbox"/> SATISFACTORY	<input checked="" type="checkbox"/> NO
		7. FURTHER ACTION REQ.	
		<input type="checkbox"/> UNSATISFACTORY (Explain in item 8)	<input type="checkbox"/> YES (Explain action in item 8)
8. FINDINGS/RECOMMENDATIONS			
<ol style="list-style-type: none"> 1. Predeparture check of aircraft at ABQ not accomplished by this inspector due late arrival of connecting flight. 2. In-flight conditions: Aircraft operation normal. Ten minutes out of LAS during descent, experienced loud bang in cockpit area. No adverse readings or operation encountered. Item entered in logbook. On ground inspection, bird remains were found on pitot mast support and small dent (approx. 3" in diameter and 1/8" deep) was found in fuselage skin just forward of right mast. ABC line maintenance at LAS wrote up work item to perform pitot check prior to departure of aircraft. This work was in progress at the time I left the field. 3. Line maintenance and ground handling at LAS very good. 4. Fueling not witnessed. 5. Did not review logbook. Short night flight. No discrepancies entered on page out of ABQ. Only log entry written into LAS was bird strike mentioned in item #2. 6. Manuals on board as required. Did not check revision dates. 7. At flight termination, check pax compartment for safety compliance. All found okay except for broken seal on first aid kit which was used in flight for a purpose not incident to flight. 8. At LAS where passengers must walk across ramp, ABC personnel had a good system of stanchions and ropes for guiding passengers into the terminal without allowing them to wander around the ramp area. All else O.K. 			
<i>(If more space is required, use reverse side)</i>			
<input type="checkbox"/> OPERATIONS	DATE	REGION AND DISTRICT OFFICE	INSPECTOR'S SIGNATURE
<input checked="" type="checkbox"/> MAINTENANCE		AWE-ACDO-33	J. Doe
<input type="checkbox"/> AVIONICS			

SECTION 28. INFORMAL SURVEILLANCE OF MAINTENANCE ACTIVITIES

2020. PURPOSE. This section provides the inspector with information pertinent to the performance of informal surveillance of maintenance activities.

2021. GENERAL. Informal surveillance of a maintenance activity is intended to be performed by an actual visit (not associated with any other work item) to any base, subbase, station, facility, shop, or maintenance work area utilized by the certificate holder. This should be an unstructured job function from the standpoint of work content, depth, and scope. This function is intended to provide the assigned principal inspector broad latitude in the determination of the location, length, purpose, and other specifics of the visit. Such a visit may be for maintaining familiarization with work methods, program details, equipment configuration, etc. It may be used for generalized or nonspecific surveillance of repair, overhaul, modification, or inspection procedures. It may also be used for maintaining casual acquaintance with the operator's employees and supervisors or for merely establishing FAA presence.

2022. INFORMAL VISITS.

a. This function differs from the structured functions such as facility, spot, and ramp inspections. It recognizes that the assigned inspectors are in the best position to determine where emphasis should be placed, where weakness in the operator's systems exist, and where inspection for inspection's sake would be a waste of time.

b. This function is a means by which the assigned inspector establishes FAA presence. Random visits to the various work areas of the operator serve to impress both the operator and its employees that they are subject at all times to inspection, reexamination, or review of their compliance with FAR's. It also serves to maintain the "pipelines" of information regarding equipment and compliance problems which are not formally reported to the FAA.

2023. RECORDING INFORMAL VISITS. A record of the visit should be made on FAA Form 3112 and should include under Item 8 (Findings/Recommendations) what activity was visited and any significant observation made.

2024.-2029. RESERVED.

SECTION 29. AIR CARRIER MAINTENANCE FACILITY INSPECTIONS

2030. AUTHORITY. The regulatory basis for maintenance facility inspections is contained in FAR Sections 121.81, .105, .123, .367, and .369; 127.29, .51, .133, and .134; 135.73, and for aircraft type certificated for 10-or-more passenger seats under Part 135, Sections 135.425 and .427.

2031. GENERAL. A maintenance facility inspection may be defined as any inspection made for the specific purpose of determining the adequacy of personnel and facilities at any base, terminal, or intermediate stop along the route flown by an operator at which maintenance is to be performed on that operator's aircraft. In the certification of a new operator, or when an existing operator introduces an aircraft make and model new to its operation, inspection of maintenance facilities should be accomplished prior to the time proving flights are conducted or prior to the start of operation if proving flights are not required. Special inspections of maintenance facilities located in other regions or other district office areas may be requested by the certificate holding office in accordance with regional instructions when a need is identified by that office.

2032. PERFORMANCE OF MAINTENANCE FACILITY INSPECTIONS. In conducting a maintenance facility inspection, the primary objective is to determine that adequate housing, equipment, spare parts, technical information, and qualified personnel are available to satisfactorily perform the functions that are to be accomplished at that particular location. In the case where required inspections (reference FAR Sections 121.369, 127.134 and, 135.427) are to be performed, the operator must have a separate inspection organization for that function. He/she must have properly trained, qualified, and authorized personnel to perform such inspections, and he/she must maintain a list of these individuals. It is obvious that requirements for a facility which is to perform major overhaul and inspection functions would be greater than for one which only minor maintenance is performed. However, the requirements concerning required inspections are the same regardless of location. Since the requirements for a facility vary to such great extent, inspectors performing inspections are expected to use good judgment in making a determination as to what is necessary. This is possible only after a clear understanding of the specific work to be accomplished at the facility.

2033. MAINTENANCE FACILITY INSPECTION REPORTS.

a. All facility inspections will be reported on FAA Form 3112. The report should identify the function of the facility; i.e., main base, contract agency for engine overhaul, etc., and a brief description of the facility. It should also include suggestions or recommendations by the reporting inspector.

b. The original of the form will be forwarded, if applicable, to the district office having certificate responsibility.

c. One copy will be retained by the reporting inspector's district office.

d. Distribution will be shown on all copies of the form.

2034.-2039. RESERVED.

SECTION 30. STORAGE AND HANDLING OF FUEL, OIL, DEICER FLUID, ADI, ETC.

2040. AUTHORITY. The regulatory basis for storage and handling of fuel, oil, deicer fluid, ADI, etc., is contained in FAR Sections 121.105, 121.123, and 121.135; 127.51 and 127.61; and 135.23.

2041. RESPONSIBILITY.

a. Maintenance inspectors are responsible for determining that the certificate holder's manual contains adequate instructions in accordance with current regulations pertaining to storage and handling of fuel, oil, and other liquid agents such as ADI, water-methanol, deicer fluid, etc. This includes all dispensing equipment, electrostatic protection procedures, protection against contamination, related recordkeeping, etc.

b. Maintenance inspectors will also be responsible for surveillance of the above and for the actual dispensing of fuel and other fluids to the aircraft.

c. The pertinent FAR's do not define in detail and in every instance the requirements to be met by the operator; however, common sense should be used.

d. The operations inspectors will be responsible for instructions and for surveillance pertaining to correct amounts and distribution of fuel in the aircraft.

2042.-2045. RESERVED.

SECTION 31. TEMPORARY GROUNDING OF AIR CARRIER AIRCRAFT

2046. PURPOSE. This section provides the inspector with instructions on procedures and the appropriateness of exercising the aircraft grounding provisions included in Section 605(b) of the Federal Aviation Act of 1958.

2047. PERSONS AUTHORIZED TO CAUSE TEMPORARY GROUNDING OF AIR CARRIER AIRCRAFT. Only those persons who are assigned to duty as an air carrier maintenance inspector or air carrier electronics inspector may cause the temporary grounding of air carrier aircraft within their respective areas of technical competence, and then only in strict accordance with the conditions stated in Section 605(b) of the Federal Aviation Act. No person who is a trainee or who has not successfully completed all elements of the prescribed indoctrination training for maintenance or electronics inspectors may issue the notice of grounding specified in Section 605(b) of the Federal Aviation Act. In the event a person in the latter category finds a condition which, in his/her opinion, warrants grounding of an aircraft, he/she should immediately notify a qualified FAA air carrier inspector who shall make the determination as to whether or not a grounding notice will be issued.

2048. CONDITIONS UNDER WHICH A TEMPORARY GROUNDING NOTICE MAY BE ISSUED. Inspectors shall exercise maximum caution in using the grounding authority of Section 605(b) of the Federal Aviation Act. The temporary grounding notice will not be issued unless it is clearly evident to the inspector that an aircraft is actually unsafe for further operation and there is an imminent possibility that such aircraft will be operated in air transportation in such unsafe condition. Both conditions must exist for the very obvious reason that all aircraft are in unsafe condition following damage or during various phases of repair, maintenance, or alteration.

a. An unsafe condition which would warrant grounding of an air carrier aircraft must be of such nature that the inspector can substantiate his/her grounding action with factual justification. The condition must be such that, if the aircraft were operated, it would be subjected to the probable danger of accident or likely to cause injury to persons or property. If any such condition exists and any doubt remains in the inspector's mind as to whether or not he/she should ground the aircraft, such doubt will be resolved in favor of issuing the grounding notice. In other words, any doubt should always be resolved in favor of safety.

b. If an inspector becomes aware of an unsafe condition in an air carrier aircraft which is to be operated in such condition and fails to act under the provisions of Section 605(b), he/she is in dereliction of a duty specifically imposed on him/her as an individual by the Congress of the United States. Section 605(b) is probably the only section in the Federal Aviation Act of 1958 where the Congress places certain specific duties directly on an employee of the agency rather than on the Administrator. Therefore, this duty cannot be taken lightly or avoided.

2049. FORM AND MANNER OF NOTIFYING AN AIR CARRIER OF TEMPORARY GROUNDING OF AIRCRAFT. The inspector who determines that an air carrier aircraft is in an unsafe condition for operation and believes that such aircraft is likely to be

operated in such condition shall notify the air carrier that such aircraft shall not be operated for 5 days unless the unsafe condition is corrected before 5 days have elapsed. Such notice will be given in the following manner:

a. Immediately after discovering the unsafe condition, the inspector will inform the first available responsible person that the aircraft is not to be operated and the reasons. He/she will also ask such person to take all necessary action and precaution to assure that the aircraft is not operated. If a flightcrew is about to operate the aircraft, the pilot-in-command will be considered the first available responsible person; otherwise, such person should be a responsible person in the operations organization of the air carrier with sufficient authority to keep the aircraft on the ground.

b. As soon as the inspector can get to his/her office or other place where a written notice may be made, he/she will confirm his/her verbal grounding notification in writing. This confirmation will contain the following information:

- (1) Time and date when verbal grounding notification was given.
- (2) Person or persons to whom verbal grounding notification was given.
- (3) Statement of unsafe condition(s) which caused the temporary grounding action.
- (4) Cite Section 605(b) of the Federal Aviation Act of 1958 as authority for the grounding action.
- (5) Statement that the 5-day period of grounding began when the inspector first verbally notified the air carrier.

c. Every effort will be made to get the written confirmation in the hands of a responsible air carrier official as soon as possible after the verbal grounding notification is made. A receipt for such written notification will be requested and obtained if possible. The word "received," date, and signature of the air carrier representative on a copy of the notification will be sufficient.

2050. COORDINATION BEFORE TEMPORARY GROUNDING ACTION IS INITIATED. Before notifying an air carrier that an aircraft is being temporarily grounded, the inspector may, if circumstances permit, consult by phone with the appropriate regional office through his/her district office supervisor or if he/she is not the principal maintenance inspector assigned to the air carrier, he/she should, if possible, consult with such inspector before grounding an aircraft. However, such prior coordination should not be allowed to interfere with immediate action to ground an unsafe aircraft if imminent operation is expected.

2051. COORDINATION AFTER TEMPORARY GROUNDING ACTION. As soon as possible after temporarily grounding air carrier aircraft, the inspector will phone or wire all pertinent details to his appropriate regional office, in accordance with regional procedures, and promptly mail two copies of the written confirmation of

grounding given to the air carrier. If the inspector is not the principal maintenance inspector assigned to the air carrier, he/she will also furnish the same information to the latter person. (One copy in the latter situation.)

2052. ACTION BY REGIONAL OFFICE AFTER BEING NOTIFIED OF TEMPORARY GROUNDING ACTION. The appropriate regional office, after receiving the details of a temporary grounding action, will notify the regional counsel as promptly as possible. The regional counsel will be given all pertinent details, including a copy of the written confirmation of grounding given the air carrier by the inspector. This will aid the regional counsel in the event further formal action is needed before the 5-day grounding period elapses, such as an order suspending the airworthiness certificate, etc. If there is a possibility that the air carrier will contest the grounding action, the Manager, Aircraft Maintenance Division, AWS-300, should be promptly informed of the conditions and circumstances involved.

2053. ADDITIONAL ACTION WITH REGARD TO AIR CARRIER AIRCRAFT WHICH HAVE BEEN TEMPORARILY GROUNDED.

a. After an aircraft has been temporarily grounded, the principal maintenance inspector, or a qualified inspector acting for him/her, will closely follow the action taken by the air carrier to correct the unsafe condition. If the condition is corrected and the aircraft is made safe for operation before 5 days elapse, the inspector will notify the air carrier in writing that the aircraft may now be operated in air transportation.

b. If the condition is not corrected and there is good reason to expect the air carrier to operate the aircraft in the unsafe condition after the 5 days elapse, the inspector should inform his/her regional office of this situation and ask that a formal order be issued by regional counsel suspending (or revoking) the Certificate of Airworthiness. This action should be initiated in time to allow issuance of such order effective immediately upon termination of the 5-day grounding period. Experience shows that the necessity of seeking further suspension or revocation of the Certificate of Airworthiness after the original temporary grounding is very remote. However, the inspector should not hesitate to request such action if it should become necessary.

2054. VIOLATION ACTION.

a. Violation action may or may not be required as a result of finding conditions which warrant temporary grounding of an air carrier aircraft. If the unsafe condition stems from failure to comply with the FAR's, violation action will be taken in accordance with established procedures.

b. If an air carrier usually operates an aircraft after being notified by an inspector that he has invoked the grounding authority of Section 605(b), the inspector should immediately contact his/her regional office so that they, working with the regional counsel, may utilize available legal measures to stop such operations as soon as possible. This situation is not likely to exist but should such operation occur, the inspector should act as swiftly as possible to cause such legal measures to be invoked.

2055. PROBABILITY OF NEED TO USE THE TEMPORARY GROUNDING PROVISIONS OF SECTION 605(b) OF THE FEDERAL AVIATION ACT. Experience shows that occasion to impose the 5-day grounding provisions of Section 605(b) will seldom occur. The knowledge that the inspector has this authority and is not reluctant to use it is usually sufficient to cause an air carrier to take such corrective measures as will avoid its use to ground his/her aircraft.

2056.-2059. RESERVED.

SECTION 32. AIR CARRIER MAINTENANCE DESIGNATOR SYMBOLS

2060. PURPOSE. To facilitate the recording, storage, and retrieval of maintenance data, approved standard maintenance letter designation symbols are to be use.

a. Four-letter designator symbols that end with the letter "A" will be issued to the holder of an air carrier operating certificate authorized to conduct operation in air transportation under FAR Parts 121, 127, and 135. Designators issued to Part 135 operators should be limited to those scheduled commuter-passenger operators using multiengine aircraft and to multiengine all-cargo air service 418 operators. See Chapter 6, paragraph 1601 of this order for the definition of an air carrier operating certificate holder.

b. Four-letter designator symbols that end with the letter "O" will be issued to the holder of an operating certificate authorized to conduct operation in air commerce as an air travel club or commercial operator under FAR Parts 121, 127, and 135. Designators issued to Part 135 commercial operators should be limited to operators operating multiengine aircraft certificated for 10-or-more passenger seats or 7,500 pounds maximum payload. See Chapter 6, Paragraph 1601 of this order for the definition of an operating certificate holder.

2061. CAUTION. These maintenance designator symbols must not be confused with other designators such as the two-letter ICAO-assigned designators or other FAA-assigned company designators which are used for such purposes as company communications and air traffic control. The inspector should make it clear to the operator that the maintenance designator symbol is for maintenance data collection purposes only, and is not to be used for communications purposes.

2062. CHANGES, ADDITIONS, OR DELETIONS TO THE LIST OF MAINTENANCE DESIGNATOR SYMBOLS (RIS: FS 8300-1). It is important that this list be maintained in an accurate and up-to-date state. To accomplish this, it will be necessary for each certificate-holding district office to promptly notify the Aircraft Maintenance Division, AWS-300, of any of the following:

- a. Issuance of an operating certificate and effective date;
- b. cancellation of an operating certificate; and
- c. any change, addition, or deletion to an operator's certificate (e.g., certificate number, district office, base of operation (city and state), etc.,).

(1) Notification should be made by dispatch to the Manager, Aircraft Maintenance Division, AWS-300, Washington, D.C., with a copy to the Manager, National Safety Data Branch, AVN-120, Oklahoma City, Oklahoma, following local procedures as applicable.

(2) In the case of issuance of a new operating certificate, the dispatch shall contain:

- (a) The operator's name and base of operations (city and state);
- (b) certificate number;
- (c) effective date of certificate;
- (d) district office holding certificate responsibility;
- (e) proposed maintenance designator symbol; and
- (f) type operation from the following table:

OPERATOR CLASSIFICATION CODES

<u>Operator Classification</u>	<u>Type Operation</u>
A	Scheduled Domestic Trunk
B	Local Service
C	Alaska-Hawaii
D	International-Territorial
E	Helicopter Operator
F	Scheduled Air Cargo
G	Supplemental Air Carrier
H	Commercial Operator
I	Air Taxi Operator (large aircraft)
J	Air Taxi Operator (multiengine scheduled passenger commuter)
K	Air Travel Clubs
L	All-Cargo Air Service

(3) The above classifications are defined in the Monthly Aircraft Utilization and Propulsion Reliability Report (RIS: AC 8320-17).

(4) The proposed maintenance designator symbol (Item E) should not be issued to the operator until it has been cleared and confirmed by AVN-120.

2063. MAINTENANCE DESIGNATOR SYMBOLS. Maintenance designator symbols have been transferred from this order to the Aircraft Utilization and Propulsion listing of maintenance designator symbols and will be updated by the National Safety Data Branch, AVN-120. The Manager, Aircraft Maintenance Division, AWS-300, will retain responsibility for maintenance designator symbols.

2064.-2069. RESERVED.

SECTION 33. AIR CARRIER INSPECTION PROCEDURES

2070. PURPOSE. This section clarifies inspection procedures relative to air carriers and commercial operators certificated under the provisions of FAR Parts 121 and 127.

2071. GENERAL. It is the responsibility of each inspector holding certificate responsibility, and other inspectors assigned maintenance inspectional responsibilities, to conduct periodic inspections to determine that the air carriers for which they have inspectional assignments are conducting their activities in accordance with the FAR's and good operating practices.

2072. INTERREGIONAL COORDINATION OF INSPECTIONS. When an air carrier's established routes traverse more than one region, the principal inspectors holding certificate responsibility shall request the assignment of necessary inspectors in the other regional and district offices located in areas through which the air carrier operates to assist in the inspection of the air carrier's activities in those areas.

a. The provisions of this handbook, Chapter 2, Section 1, will be followed in making such requests. When making a request for assistance, the request should state exactly what, when, where, and the number of the particular type of inspections required. It should be remembered, however, that due to other commitments and manpower utilization, the regional and district offices may not be able to lend assistance to the extent requested.

b. The requesting office, in such cases, should be advised in writing of the number and type of inspections which can be accomplished so that other arrangements may be made by the requesting office to conduct such additional inspections considered necessary. Such assignments should be on a permanent basis and shall constitute secondary responsibility for the air carrier's maintenance activities.

c. In the case of supplemental air carriers and commercial operators that do not have an established pattern of operation, it may not be possible to make assignments on a permanent basis as outlined above. Under such a condition, the inspector having certificate responsibility should assume the responsibility of determining where a carrier is operating and make requests for assistance as the need arises.

d. Inspectors should make every effort to comply with requests for assistance in monitoring the maintenance activity of air carriers conducting operations into their assigned areas. When an air carrier operates infrequently into a particular area, the air carrier district office for that area should feel free to monitor the air carrier's activities without being requested to do so. In all cases, a report will be furnished to the district office having certificate responsibility.

2073. PERIODIC MEETINGS OF INSPECTORS. To assure a mutual understanding of an air carrier's maintenance program and to affirm uniformity of FAA inspection procedures throughout the carrier's system, the district office having certificate responsibility should, in accordance with regional instructions, schedule a meeting annually. Attendees should be, but not limited to, maintenance and avionics inspectors of other district offices who accomplish major inspection duties on the air carrier, Washington personnel, and selected "SWAP" personnel of the certificate-holding region. All phases of the carrier's operations should be discussed and agreement reached concerning any action deemed appropriate to rectify deficiencies in the air carrier's operations. Also, mutual problems concerning the accomplishment of required inspection policies and procedures will be maintained throughout the air carrier's entire system. Air carrier officials may be invited to attend part of the meeting in accordance with regional guidance.

2074. AIR CARRIER MEETING REPORT/ATTENDEES (RIS: FS 8320-21). When scheduled meeting are held, a complete narrative report will be prepared by the district office in charge with copies forwarded to the regional and district offices concerned and to the Manager, Aircraft Maintenance Division, AWS-300, Washington, D.C.

2075. TRAINING OPERATIONS. If certain of the operator's aircraft are used exclusively for training (operated and maintained under provisions of FAR Part 91), the assigned air carrier maintenance inspector should notify (through appropriate administrative channels) the FAA district office responsible for surveillance of the airport(s) where the majority of training is to be conducted. The notification should be in writing listing the aircraft (by registration numbers) to be used in the training operations and should advise the duration of such operations if known. An arrangement for periodic visitation/reporting between the district offices involved is encouraged.

2076.-2087. RESERVED.

SECTION 34. SPECIAL FIELD REPORTING REQUIREMENTS

2088. FIELD REPORTING REQUIREMENTS. The Office of Airworthiness, Aircraft Maintenance Division, AWS-300, needs certain additional operating statistics and service difficulty information for the DC-10/B-747,757,767/L-1011/A-300 series airplanes. This information will be used in monitoring and evaluating the maintenance programs.

a. The intent of this supplementary reporting requirement is to identify design and maintenance problem areas. Inspectors must be ready to interpret and respond to early distress indicators and develop lasting fixes, including necessary inspections.

b. In addition, this information will provide Headquarters with background data to answer requests from the field, industry, and other governmental agencies concerning the operational performance of the DC-10/B-747,757,767/L-1011/A-300 series airplanes. Also, data will be accumulated to support changes to the initial maintenance requirements set forth in the FAA Maintenance Review Board reports.

c. The responsibility for completion and submission of this information rests with the assigned inspectors. Inspectors will normally acquire the needed information under the authority of Section 605(b) of the Federal Aviation Act of 1958, which provides for the inspection and examination of air carriers to determine compliance with the applicable regulations. These special reporting requirements do not supersede the MRR/MIS and/or incident reporting requirements.

d. Procedures. The following procedures outline the action to be taken by the Air Carrier/Flight Standards District Office; the region; the Aircraft Maintenance Division, AWS-300; the National Safety Data Branch, AVN-120; and the DC-10/B-747,757,767/L-1011/A-300 Aircraft Evaluation Groups, ANM-270L, and ANM-270S.

(1) Air Carrier/Flight Standards District Office. The assigned inspector will submit the following information:

(a) Special Report of Significant DC-10/B-747,757,767,/L-1011/A-300 Failures, Malfunctions, or Defects (RIS: WS 8320-22) will be submitted on the areas listed in Figure 6-37 of this chapter. Data on report will include:

- 1 Date of submittal.
- 2 Report number (assign a number to each reported malfunction, failure, or defect; e.g., AAL-1, etc.).
- 3 Airplane make and model, manufacturer's serial number, and registration (N) number.
- 4 Name of operator.

5 Date of occurrence.

6 MRR/MIS or incident reports submitted (where pertinent, list date and number of reports).

7 ATA System/Subsystem (2310, 3230, etc.).

8 Component manufacturer and part number (where pertinent).

9 Time since new or last inspection and total number of landings (where pertinent).

10 Description of difficulty: Make statements as brief as possible. State type of malfunction or failure and, if a defect, give locations by zone number and FS, WS, BL, etc. Attach sketch or photo if required. Avoid using report form for evaluation of the causes of the defect. However, an operator's evaluation may be attached on a separate sheet. In those cases where the reported item is a repeat item, list the previous report(s) by date and report number.

11 Corrective action taken by operator and assigned inspector (where pertinent); indicate if a prior modification, repair, or maintenance repair action was significant to the defect found. List modifications by airline modification order number, manufacturer's service bulletin number, etc. If none were completed, so indicate. List changes to operator's maintenance program which have been made as a result of this deficiency. Use additional pages as necessary and attach copy of airline modification order or manufacturer's service bulletin as applicable.

12 List results of special inspections or fleet campaigns conducted by operator (where pertinent).

(b) If the item warrants immediate notification of air carriers, the assigned inspector will submit safety recommendations in accordance with Order 8010.2, Flight Standards Service Difficulty Program.

(c) In the interest of expediency, the special reports of significant failures, malfunctions, or defects (RIS: WS 8320-22) shall be mailed directly to aviation safety inspectors (airworthiness) at the addresses specified in this paragraph. A copy shall also be sent directly to the Aircraft Maintenance Division, AWS-300, and to the National Safety Data Branch, AVN-120, immediately following each occurrence. The importance of the timely submission, accuracy, and completeness of these reports cannot be overemphasized.

NOTE: ANY NEWSWORTHY ITEM WILL BE IMMEDIATELY REPORTED BY TELEPHONE TO THE APPROPRIATE AIRCRAFT EVALUATION GROUP, AND A WRITTEN REPORT WILL FOLLOW.

1 DC-10/L-1011 Aviation Safety Inspectors (Airworthiness), Federal Aviation Administration Evaluation Group, ANM-270L, 4340 Donald Douglas Drive, Long Beach, California 90808.

2 B-747,757,767/A-300 Aviation Safety Inspectors (Airworthiness), Federal Aviation Administration, Aircraft Evaluation Group, ANM-270S, FAA Building, Boeing Field/King County International Airport, Seattle, Washington 98108.

3 A copy of A-300 reports to Aviation Safety Specialist, AEU-201, Federal Aviation Administration, c/o American Embassy, APO New York 09667.

(d) The assigned inspector shall be responsible for keeping the regional office apprised of the investigative and corrective action being taken on each reported significant service difficulty.

(2) Regional Offices. The region shall be responsible for providing the necessary supervision relative to processing the reports, where necessary, and for providing additional information which will be beneficial to the office receiving the original report.

(3) The Aircraft Maintenance Division, AWS-300. Upon receipt, the Significant Failure, Malfunction, or Defect Reports shall be integrated with other available information on the matter and reviewed by Air Transportation Branch or Avionics Branch personnel. If, due to this review and recommendations of the assigned inspector, it is determined there is a need for additional action, appropriate notification shall be prepared (telegraphic alerts, directed safety investigations, or bulletins).

(4) National Safety Data Branch, AVN-120. upon receipt, the Significant Failure, Malfunction, or Defect Reports are integrated with available information on the matter, and entered into the automatic data processing system.

(5) DC-10/B-747,757,767/L-1011/A-300 specialists will be responsible for coordination and followup on each reported significant failure, malfunction, or defect with the Aircraft Certification Division, ANM-100. All requests for additional information from field personnel shall be coordinated with AWS-300 prior to initiating such requests.

(a) Suitable procedures should be established within the appropriate regions to assure timely coordination between maintenance, engineering, and operations specialists, including coordination with the airframe and engine manufacturers so that duplicate contacts are avoided.

(b) The Aircraft Maintenance Division, AWS-300, should be kept apprised on the evaluation results and the status of any corrective actions being taken by the manufacturer and by the type certificate controlling region.

(c) In those cases where immediate corrective action is taken either by the manufacturer (alert wires, circular letter, etc.) or by the type certificate controlling region (AD, FOEB action or amendment to airplane flight

manual or airplane type data sheet), the Aircraft Maintenance Division, AWS-300, will be advised by telephone.

(d) Following the contacts prescribed by (b) and (c) above, AWS-300 will keep assigned representatives of ASF-100 and AWS-100 advised.

FIGURE 6-37. SERVICE DIFFICULTY INFORMATION TO BE REPORTED - SPECIAL REPORT OF SIGNIFICANT DC-10/B-747,757,767/L-1011/A-300 FAILURES, MALFUNCTIONS, OR DEFECTS (RIS: WS 8320-22)

1. Airplane system malfunctions, failures, or defects which result in:

- a. Special inspection or watch items.
- b. Fleet campaigns.
- c. Modifications by airline or manufacturer.
- d. Maintenance program changes.

2. In addition, any malfunction, failure, or defect that the inspector becomes aware of during surveillance of the maintenance program which the inspector considers to be important from an airworthiness standpoint.

2089. DISTRIBUTION.

a. The DC-10/B-747,757,767/L-1011/A-300 specialist at the Aircraft Evaluation Group will be responsible for distributing copies of the special report on significant failures, malfunctions, and defects to all other principal maintenance/avionics inspectors who have primary responsibility for the same type airplane, and to the appropriate Aircraft Certification Division.

b. The Aircraft Maintenance Division, AWS-300, will be responsible for distributing copies of the same report to the Manager, Flight Standards Division, in all regions.

c. The regions, in turn, will distribute copies of the report to those district offices that have secondary responsibility for the same type airplanes.

2090. SAFETY IS DEPENDENT ON GOOD EFFECTIVE COMMUNICATION. Correct information given early on a malfunction or failure speeds up mutual understanding among those persons who can effect corrective action. In the past, safety has suffered some setbacks due to poor or late notification of important events. Since part of mutual understanding is dependent on good communications, please provide early correct information on malfunctions, failures, and structural defects. Let us all strive for better communication in the interest of safety.

2091.-2099. RESERVED.

SECTION 35. OPERATION OF FOREIGN-REGISTERED AIRCRAFT
BY U.S. AIR CARRIERS

2100. AUTHORITY. The regulatory basis for operation of foreign-registered aircraft by U.S. air carriers is contained in FAR Parts 121, 127, and 135.

2101. PURPOSE. This section provides instructions to maintenance and avionics inspectors responsible for assuring that foreign-registered aircraft intended for use by U.S. air carriers meet the requirements of the applicable FAR.

2102. INSTRUCTIONS. U.S. air carriers may operate, in common carriage and for the carriage of mail, a civil aircraft which is leased or chartered to it without crew and is registered in a foreign country which is a party to the Convention of International Civil Aviation of the aircraft:

a. Carries an appropriate airworthiness certificate issued by the country of registration and meets the registration and identification requirements of that country. It may be necessary for the operator to perform inspections or tests over and above those required by its approved program in order to keep the foreign airworthiness certificate valid in the country of registry.

b. Conforms to a type design which is approved under a U.S. type certificate and is in a condition for safe flight.

c. Meets the requirements for issuance of a U.S. standard airworthiness certificate and complies with the maintenance, operating, and equipment rules applicable to the operation of a U.S.-registered aircraft of the same type. HOWEVER, a foreign-registered aircraft is not eligible for, nor would it receive, a U.S. standard airworthiness certificate or be registered in the U.S.

d. Is in compliance with all effective U.S. and foreign airworthiness directives and complies with the life-limited parts requirements.

e. Complies with the noise, fuel venting, and engine emission requirements. Compliance must be shown to meet the standards of the "new production" (FAR Section 36.1(d)) and "acoustical change" (FAR Section 36.7) rules, and the operating noise limit rules in Subpart E of FAR Part 91, as if the aircraft were to be certificated and registered in the U.S. If the FAA adopts or amends any other noise or engine emission requirements applicable to U.S.-registered aircraft, they will apply equally to foreign-registered aircraft operated by U.S. air carriers.

2103. CERTIFICATE HOLDER RESPONSIBILITY. The certificate holder must file a lease or charter agreement with the FAA Airmen and Aircraft Registry at Oklahoma City, Oklahoma, and satisfy that foreign country's requirements, including any special documentation required by that country to be carried on the aircraft.

2104. EXEMPTIONS OR CONCESSIONS. It may be necessary for the lessee or lessor to obtain exemptions or concessions from the foreign airworthiness authority who has jurisdiction over the registration of the aircraft.

2105. FAA RESPONSIBILITY. The FAA will conduct such surveillance, as necessary, including documentation and/or physical inspections. When the aircraft are authorized for use in U.S. air carrier operations, they will be treated as any other U.S.-registered aircraft listed on the Operations Specifications.

2106.-2150. RESERVED.

SECTION 36. AIR CARRIER RELIABILITY PROGRAMS DEVELOPED FOR CUSTOMER USE

2151. PURPOSE. This section provides guidance regarding reliability programs for operators arranging with other operators for maintenance, and specifically concerns contractual arrangements whereby the operator's reliability program is based on the approved program of the contractor. This guidance is in addition to that provided by Chapter 6, Section 9, of this order and Advisory Circular 120-17A, Maintenance Control by Reliability Methods.

2152. DEFINITIONS. For the purpose of this section, the following definitions apply:

a. Contractor. An FAR Part 121, 127, or 135 operator performing maintenance in accordance with its approved continuous airworthiness maintenance program on another FAR Part 121, 127, or 135 operator's aircraft, engines, or components.

b. Operator. An FAR Part 121, 127, or 135 operator arranging with a contractor (as identified above) for maintenance of its aircraft, engines, or components in accordance with the contractor's program.

2153. BACKGROUND.

a. Contractual maintenance arrangements have been the practice by small fleet operators because it is impractical for them to staff and equip maintenance facilities due to the occasional nature of their maintenance needs. In addition, their operations do not support a technical staff to develop effective maintenance programs, and the statistical data generated by their small fleets is insufficient for reliability control. For these reasons, some small operators have entered into contractual maintenance arrangements whereby their aircraft are treated as part of the operating fleet of the operator performing the maintenance. Chapter 6, Section 6, paragraph 1691 d, of this order addresses this arrangement. The operator is not required to develop its own reliability program for this arrangement but is required to have a continuing analysis and surveillance system (FAR Sections 121.373, 127.136, and 135.431) and must participate in the contractual arrangement as necessary to uphold its airworthiness responsibilities. The operator is obligated to provide the assigned principal airworthiness inspectors with information and data needed to substantiate the effectiveness of the arrangement; i.e., reliability program reports, premature removal reports, etc.

b. Deregulation resulted in new operators being certificated, some with considerable large fleets. Again, the maintenance workload fluctuations discourage developing a comprehensive maintenance organization, but it is feasible for these operators to accomplish some elements of their maintenance program and to contract for the remaining elements. Under a typical arrangement, they contract for C and D level aircraft inspections, major powerplant maintenance, and component repair/overhaul. They perform their own A and B checks and use local maintenance organizations for repairs and other maintenance between contracted services. Chapter 6, Section 6, paragraph 1691 e, of this order addresses this arrangement.

c. Traditionally, an aircraft maintenance program; i.e., the maintenance schedule and methods, practices, and procedures for its accomplishment is based on:

- (1) The inherent integrity of the system, component, or installation;
- (2) The capability of the facility performing the maintenance; and
- (3) Operational and environmental characteristics of the operation in which the aircraft is used.

d. With regard to these factors, most aircraft presently involved in contractual maintenance arrangements, as described in paragraphs 2153 a and b of this section, have been in air carrier service for many years and the maintenance programs developed by the operators of these aircraft have been proven. Similarly, the capability of the operators that have been operating these aircraft; i.e., training, equipment, staffing, etc., are established. This leaves only the question of operating characteristics; such as, utilization, flight cycle length, and environment for determining that an established operator's aircraft maintenance program is suitable for another operator under a contractual maintenance arrangement. The approval of an existing program for a new operator and the need to adjust inspection intervals, overhaul periods, etc., should be based on the suitability of the program rather than arbitrarily reducing times because the operator is new.

2154. DISCUSSION. A scheduled air carrier (contractor) develops reliability programs for use by other air carriers (operators). The reliability program document defines the responsibilities of the participating air carriers and includes procedures for interface between the two. The document is based on the premise that the operator adopts appropriate portions of the approved aircraft maintenance program of the contractor.

a. In general, the operator (contracting for maintenance) provides utilization information and event information, for example, delays, cancellations, shutdowns, etc., to the contractor (operator performing the maintenance), as well as corrective action and shop repair details for work performed away from the contractor's maintenance facility. The contractor consolidates this information with that generated while the aircraft is undergoing maintenance at its facility, analyzes that information, and returns it to the operator in useable form. The contractor's analysis and the report back to the operator compare the mechanical performance of the operator's aircraft to acceptable performance levels and to the performance of the contractor's fleet. The contractor also provides comments or recommendations for corrective action for irregularities disclosed by the report. This is particularly important when a control limit has been exceeded on the operator's fleet or when other events indicate unsatisfactory mechanical performance. The operator will use this information as specified by its reliability program.

b. The requirements imposed on the contractor by the operator's maintenance program, reliability program, or operations specifications should be supported by the contractual agreement. Operations specifications issued to one operator are not binding on other operators (contractors) or repair stations, so it is the operator's responsibility to ensure all requirements of the specifications are met.

c. Adoption of the contractor's approved aircraft maintenance program by the operator should particularly consider calendar time between inspections and lubrication tasks. Other considerations are make, model, and modification variations between the operator's aircraft and the aircraft of the contractor. These considerations and the past maintenance program and maintenance history of the aircraft must be accounted for. Modifications and additional inspections for the operator's aircraft may be necessary for the transition to the new program. Responsibility and procedures for maintaining nonstandard installations must be established.

d. Subsequent revisions to the contractor's program should be considered for the operator's program based on the same justification. There should also be a means for the operator to initiate change.

e. FAA approval of the aircraft maintenance program and related reliability program will be given by the FAA principal airworthiness inspectors assigned to the operator. At this point, it becomes the operator's approved program. Changes to the aircraft program or reliability program require approval by the principal airworthiness inspectors assigned to the operator either on an individual basis or by procedures approved as part of the operator's reliability program.

f. Short-term escalation should be provided to the operator to offset possible setbacks in the handling schedule of the contractor.

g. Although this section addresses contractual arrangements for aircraft maintenance, these fundamentals apply equally to independent programs for powerplant or component maintenance repair/overhaul/restoration, and combined fleet arrangements.

2155. PROCEDURES. Principal airworthiness inspectors assigned to operators arranging for maintenance with another operator (contractor) under an aircraft maintenance program derived from that contractor should ensure that the operator has a reliability program for that purpose and that the contractual arrangement provides for the following:

a. Data analysis and corrective action functions which consider the past experience, data bank, and past corrective actions of the contractor as well as that of the operator.

b. The establishment of uninhibited, timely, and an adequate flow of information between the two participants.

c. The outlining of each participant's contribution and responsibilities in the operator's reliability program.

d. The contractual arrangement should support the responsibilities of the contractor specified in the operator's reliability program.

2156.-2165. RESERVED.