

NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Washington, D.C. 20594

Attachment 37 - FAA Order 8900.1

**OPERATIONS/HUMAN PERFORMANCE SUPPORT TO
THE U.S. ACCREDITED REPRESENTATIVE**

DCA10RA092

VOLUME 3 GENERAL TECHNICAL ADMINISTRATION

**CHAPTER 32 MANUALS, PROCEDURES, AND CHECKLISTS FOR 14 CFR
PARTS 91K, 121, 125, AND 135**

Section 5 Flight Manuals for 14 CFR Parts 121/135

3-3231. GENERAL. This section contains direction and guidance to be used by principal operations inspectors (POI) in the evaluation of flight manuals for Title 14 of the Code of Federal Regulation (14 CFR) part 121 and 135 operators. Part 121, § 121.141 requires that part 121 operators maintain a current flight manual for each aircraft used in their air transportation operations. Title 14 CFR part 135, § 135.81(c) requires that part 135 operators maintain a current flight manual (or the equivalent information for certain aircraft certified without a flight manual) for each aircraft used in their air transportation operations. 14 CFR part 91, § 91.9 requires that a flight manual (or the equivalent information for aircraft certified without a flight manual) be available in the aircraft for flightcrew personnel use and guidance during flight operations. To satisfy the part 121 and 135 requirements, operators may use either the approved airplane flight manual (AFM) or the approved rotorcraft flight manual (RFM), as applicable, or they may develop, obtain approval for, and use a company flight manual (CFM). AFMs or RFMs (as applicable) are acceptable for satisfying the regulations in cases of small, simple aircraft. The Federal Aviation Administration (FAA)-preferred practice for all other aircraft, however, is for operators to develop a CFM which includes procedures specifically tailored to the operator's operations. Operators who operate multiple aircraft types usually find it efficient to collect policies, procedures, and guidance common to all aircraft in a single manual such as a flight operations policy manual (FOPM). In this case, the CFM contains only those policies, procedures, and guidance that apply to the operation of the specific aircraft. POIs shall use this section as guidance when evaluating an operator's AFMs, RFMs, or CFMs.

3-3232. APPROVED AIRPLANE FLIGHT MANUALS (AFM) OR APPROVED ROTORCRAFT FLIGHT MANUALS (RFM). 14 CFR part 21, § 21.5(a) requires that aircraft manufacturers provide an approved AFM or an approved RFM with each aircraft certified after March 1, 1979. Prior to this date, approved flight manuals were required only for transport category airplanes. Proposed AFMs and RFMs are reviewed by a flight manual review board (FMRB) and, based on the FMRB's recommendation, are approved by the manager of the applicable aircraft certification office (ACO) when the aircraft is certified.

A. Approved Sections of AFMs and RFMs. AFMs of transport category airplanes contain three sections which are reviewed by the FMRB and approved by ACO. These are the procedures, performance data, and limitation sections. Weight and balance limits for transport category airplanes are given in the limitations section. AFMs of airplanes approved under 14 CFR part 23 or rotorcraft approved under 14 CFR part 27 or 29 contain four approved sections: procedures, performance data, limitations, and weight and balance.

1) Procedures Section of AFMs for Complex Aircraft. The procedures section of an AFM of complex aircraft is typically not suitable for flightcrew use in air transportation operations. The certification regulations only require that the procedures section of an AFM or RFM contain specific and detailed procedural information related to the unique characteristics of

1

UNCONTROLLED COPY WHEN DOWNLOADED
Check FSIMS to verify this version is current prior to use

the aircraft. These manuals are not required to contain each and every procedure necessary to operate the aircraft. Most manufacturers of complex aircraft develop and have approved only those procedures necessary to certify the aircraft. The certification regulations do not require that procedural information be expressed in sequential, step-by-step format suitable for publication in a checklist. AFM procedural information may be supplied in narrative format. POIs must ensure that operators have rewritten such AFM procedures to make them suitable for flightcrew use in part 121 and 135 operations.

2) Performance Data Section of AFMs for Complex Aircraft. AFMs for complex aircraft contain extensive performance data sections. All performance information necessary to operate the aircraft in revenue operations is in this section. The AFM performance data section of a complex aircraft is typically not suitable for flightcrew use. This section is suitable for use by performance engineers.

3) Procedures and Performance Data Sections under Parts 23 and 27. AFMs and RFMs of smaller, less complex aircraft certified under part 23 and helicopters certified under part 27 typically contain performance data and procedures sections that are suitable for flightcrew use. POIs of operators using these aircraft shall review the applicable manual to ensure that these sections are appropriate for flightcrew use in the operation being conducted.

B. Unapproved Sections of AFMs and RFMs. In addition to the approved sections of AFMs and RFMs, aircraft manufacturers often include other information which does not require approval under the certification regulations in an AFM and RFM. For example, a manufacturer may include systems descriptions, recommended procedures, or correction factors for wet runways in an accepted section. The FMRB does not formally review this type of information and the ACO does not approve it. The ACO only acts on this type of information when some part of the information has been discovered to be unacceptable and then brought to the attention of the ACO.

C. Use of AFMs or RFMs as Flight Manuals. When an operator proposes to use an AFM or RFM as the required flight manual, the POI must review both the approved and unapproved sections of the manual. The POI must determine that the information in the AFM is presented in a manner that is suitable for use by the flightcrew, that it is compatible with the type of operation conducted by the operator, and that it contains all of the required information and procedures.

1) Certification Regulations Versus Operational Requirements. Aircraft currently used in air transportation operations have been certified under the provisions of parts 23, 25, 27, 29; SFAR 23 or SFAR 41; or preceding regulations such as SFAR 422, CAR 3, CAR 4, or Aero Bulletin 7; or, under the regulations of another government and accepted by the United States in accordance with part 21, § 21.29. The assumptions, limitations, and requirements of these aircraft certification regulations may differ from the operational requirements of parts 121 and 135. The direction and guidance concerning procedures and performance which operators must provide to flightcrews for aircraft operations under part 121 or 135 is normally more comprehensive than that published in an AFM or RFM. For example, basic crew coordination

procedures such as standard altitude awareness call-outs during departures and approaches are not usually in an AFM or RFM.

2) **Supplementary Information.** When a POI finds that the procedures or performance information published in an AFM or RFM is insufficient for the operation to be conducted, the POI shall require the operator to develop supplementary information and make it available to flight crewmembers. It is acceptable for operators using an AFM or RFM as the required flight manual to place supplementary information in a section of the general operations manual (GOM), such as a flight operations policy manual (FOPM) or a flight training manual.

3) **Aircraft Certified Without an AFM or RFM.** An AFM or RFM may not have been prepared for an airplane or rotorcraft certificated before March 1, 1979. Part 91, § 91.31(b)(2) requires that the same information required to be in an AFM or RFM be available aboard these aircraft. The only practical method for meeting this requirement for aircraft of 6,000 pounds maximum takeoff weight (MTOW) or more is for the operator to prepare a CFM which contains performance, procedures, and limitations. Some smaller aircraft may be operated satisfactorily with the information presented by placards in the aircraft.

3-3233. COMPANY FLIGHT MANUALS (CFM). A CFM containing the required information and approved by the POI under the provisions of this handbook is an approved flight manual for the purposes of § 91.31(b)(1) or (2), part 121, § 121.141(b), or part 135, § 135.81(e). An approved CFM is the only flight manual that needs to be carried aboard an aircraft. POIs must evaluate an operator's CFMs using the guidance that follows.

A. Identification as a Flight Manual. POIs must ensure that a CFM is clearly marked as an approved flight manual for a specific operator. Sections of a CFM which contain approved information must also be clearly identified (see section 2, paragraph 3-3156 for specific guidance on identifying approved information).

B. Approved Sections of a CFM. POIs must ensure that the approved sections of a CFM contain all of the information that is required by the flightcrew to operate the aircraft. POIs should evaluate the approved sections of a CFM for the following:

1) The procedures section of a CFM must contain all procedures required by the AFM or RFM and for each operation the operator conducts. As a minimum, the operator must include sufficient detail to allow a trained crew to safely and effectively operate the aircraft. The procedures section of the manual may be divided into subsections such as normal, nonnormal, and emergency procedures.

2) The operator's performance data in a CFM must contain the data from the AFM or RFM and instructions on how to use that data. Operators may assign the responsibility for performing takeoff and landing data computations to flightcrew or ground personnel. The flightcrew must have access to adequate data in the cockpit, (including information for the specific airport and runway to be used) to perform the computations for which they are responsible. When takeoff and landing data is presented in tabular format for specific runways, it is often referred to as an airport analysis. Performance data may be published under separate

cover and be given titles such as performance manual or airport analysis. When performance data is published under separate cover, it must be identified as a portion of the CFM. Takeoff and landing performance data may be stored in an on-board or ground-based computer (see volume 4, chapter 3 for guidance on the approval of aircraft performance and airport data acquisition systems).

3) The limitations section of a CFM must be clearly identified as FAA approved. The limitations section of a CFM must contain each limitation which is contained in the AFM or RFM (see paragraph 3-3243 that follows for further details).

C. Accepted Sections of a CFM. Accepted sections of a CFM may contain supplementary information such as aircraft and systems descriptions, an expanded explanation of procedures, special policies and procedures, and other selected topics pertinent to operation of the aircraft type. The accepted sections of a CFM must conform to the regulations and safe operating practices but do not need to conform to corresponding sections of the AFM or RFM, either in format or content. POIs should ensure that the CFM developed by or for the operator contains sufficient explanation and guidance for flightcrew use in the safe operation of the particular aircraft type. Background information or information that is not specific to the operation of the particular aircraft should be placed in a section of the GOM, rather than in a supplementary section of the CFM.

3-3234. AIRCRAFT SYSTEMS DESCRIPTION. Operators must provide crewmembers with a systems description of an aircraft's systems and components that contains sufficient detail to allow flight crewmembers to adequately understand and perform all procedures in the flight manual. AFMs, RFMs, and CFMs may or may not contain a systems description section. The aircraft systems description section of a manual is "accepted" as opposed to "approved." Operators may choose to place the systems description information in an accepted section of a CFM or in a section of the GOM, such as a training manual.

3-3235. PROCEDURES. POIs should not construe procedures published in an AFM or RFM to be the only or best means of accomplishing a specific objective. Because AFM or RFM procedures are formulated primarily for aircraft certification purposes, POIs should encourage operators to develop procedures appropriate to revenue operations for inclusion in a CFM.

A. Procedures incorporated in a CFM should be tailored by the operator to accommodate the operator's type of operation, fleet standardization objectives, and cockpit management objectives. As an operator's operations become more complex, it is progressively more important to include detailed guidance in the flight manual, which is specifically tailored to the operator's operations.

B. Aircraft which have been modified by supplemental type certificate (STC) or by field approval (FAA Form 337) may require different procedures than unmodified aircraft. POIs must coordinate approval of procedures with principal maintenance inspectors (PMI) to ensure modifications are accounted for in the operator's procedures.

C. Procedural information included in a CFM must be presented in a step-by-step format. A procedural step in an AFM or RFM procedure must be included in the equivalent CFM procedure, unless the POI approves the deletion through the process described in subparagraph I that follows.

D. Operators are responsible for developing effective standard operating procedures. The development process for standard operating procedures consists of the operator or other qualified party (such as the manufacturer) conducting a painstaking task analysis of the man-machine-environment relationship. Although this analysis is time consuming and expensive, it is necessary to meet the required level of safety in air transport operations. General guidelines for POIs to use when evaluating these procedures are contained in paragraph 3-3236 that follows. Specific guidelines for developing aircraft operating procedures are almost nonexistent. This chapter contains the best information available at the time of publication. POIs should bring the information in this chapter to the operator's attention. Further guidance will be added to this chapter as it becomes available. POIs should encourage those operators that do not have extensive experience in developing their own procedures to follow the manufacturer's recommendations.

E. POIs should ensure that operators standardize their operating procedures both within and across aircraft types to the greatest extent possible. POIs should make operators aware of the following information concerning procedures for standardization.

- 1) Standardized procedures promote understanding and effective communications between crewmembers. Research has shown that standardized procedures and effective communications are significant factors in reducing error in the cockpit and in enhancing safety.
- 2) Crewmembers of most large operators operate numerous different aircraft during their career. Standardized procedures enhance a crewmember's transfer of learning and minimize negative transfer when the crewmember transitions from one aircraft to another.
- 3) A complete standardization of procedures is not possible when there are significant differences between manufacturers and installed equipment. A high degree of standardization, however, is possible. For example, the flight procedures for: engine failure after V_1 , engine fire after V_1 , and a missed approach with an engine out, can be designed to be identical. Each procedure might include the aircraft climbing at a reference speed to an identical cleanup height, then accelerating, then retracting the flaps, and then continuing the climb at specified engine-out climb speed. The reference speeds might change depending on the aircraft weight, but the procedure could otherwise be identical. If the operator designed these procedures carefully, they could be used on all aircraft in the operator's fleet.

F. POIs may approve combined procedural steps. For example, an AFM or RFM procedure specifies a two-step procedure such as the following: Step 1—Smoke Goggles On, and Step 2— O_2 Mask On. The POI could approve a one-step procedure such as the following: Step 1. Smoke Goggles and O_2 Mask On. If there is a specific reason, however, for not combining the steps, the POI must not approve such combinations. For instance, if in the

previous example, for some reason the smoke goggle has to be put in place before the O₂ mask can be put into place, the two-step procedure should be retained.

G. POIs may approve an arrangement of procedural steps in a different sequence from the sequence in the AFM or RFM. The operator must demonstrate to the POI's satisfaction that the change in sequence is safe and effective through validation testing. The POI must ensure that adverse effects are not introduced. For example, with many aircraft the flaps are required to be extended or the trim to be set to specific settings before an adequate control check can be accomplished. If this sequence is reversed, the control check is invalid.

H. POIs may approve the combination of similar procedures into a single procedure. For example, it may be desirable for an operator to combine engine fire, engine failure, and severe engine damage procedures into a single procedure. POIs may approve the resulting procedure when validation testing shows the procedure to be clear, easy to use, and if it retains the safeguards of the individual procedures it replaces. If the combined procedure results in a complex and error-prone procedure, the POI should not approve it.

I. The POI will require the operator to present evidence that newly developed procedures are effective. This may be done by analysis, documentation, or validation tests. Tests may be conducted by the manufacturer, the operator, or another competent party (such as a contractor). The POI or a designated inspector qualified in the aircraft must evaluate the effectiveness of such tests.

J. If the POI has any question about the validity or safety of an operator-developed procedure, the POI should consult with the appropriate AEG. When a policy question arises, POIs should request guidance from the regional flight standards division (RFS) or, if required, from the Air Transportation Division (AFS-200) through the RFS. All such questions must be resolved before the POI approves the procedure.

3-3236. NORMAL PROCEDURES. The normal procedures section of a CFM must contain procedures for each normal operation that flight crewmembers are required to perform. Each normal procedure should be amplified by the operator with sufficient instruction to ensure that the procedure is properly accomplished. POIs must ensure that this instruction is thorough enough to provide the least experienced flight crewmember with sufficient information to perform the procedures.

A. Many operators include normal operating checklists and an explanation of how to accomplish each step of the checklists in the normal procedures section of the CFM. This is an acceptable practice; however, it is important to understand that an explanation of how to perform the normal checklist is not the only material required in the normal procedures section of a CFM. Guidance for operational procedures for which there are no checklists (such as the takeoff procedure) must also be addressed. Procedures for crew coordination and for the use of checklists must be included. The procedures section of a CFM must contain clearly specified crew duties. For example, the procedures section should contain a specific assignment for the crewmember that is responsible for setting power and maintaining directional control when the second-in-command (SIC) is conducting a takeoff.

6

UNCONTROLLED COPY WHEN DOWNLOADED
Check FSIMS to verify this version is current prior to use

B. POIs may require the operator to develop and publish normal procedures in a CFM which are not in the AFM or RFM, when the procedures are necessary to ensure an adequate level of safety. Instrument approach procedures, adverse weather operations, long-range navigation, and special procedures for CAT II and CAT III operations are all examples of required normal procedures which may not be in an AFM or RFM.

C. Operators may need to develop extensive procedures for operating computer-based systems in the cockpit. A description of computer displays and controls does not normally provide a crewmember with adequate information to operate such systems. Procedures for computer operations should be keyed to menus and display prompts. Procedures should be written in an interactive format rather than as a rote listing of key strokes.

3-3237. MANEUVERS AND PROCEDURES DOCUMENT. Part 121, § 121.403(b)(3) and part 135, § 135.327 (b)(3) require that operators publish “detailed descriptions or pictorial displays of the approved normal, abnormal, and emergency maneuvers, procedures and functions that will be performed during each flight training phase or flight check, indicating those maneuvers, procedures and functions that are to be performed during the inflight portions of flight training and flight checks.” Operators must obtain approval of the maneuvers and procedures descriptions before they may be published. The preferred procedure for obtaining approval is the document method described in section 2, paragraph 3-3152B4 of this chapter.

A. Before approving the operator’s “maneuvers and procedures document,” POIs must ensure that it contains the tolerances which must be maintained in training and checking. POIs must ensure that the operator’s standards are appropriate for the aircraft being flown and for the operation being conducted. Operators should use the Practical Test Standards (PTS) (FAA-S-8081-5 for pilots), any applicable Flight Standardization Board (FSB) reports, the manufacturer’s recommendations, and volume 5 of this order, to establish these standards. POIs should use the guidance that follows when evaluating the standards used in an operator’s maneuvers and procedures document.

1) The standards in FAA-S-8081-5 (PTS) are particularly appropriate for pilots of single-engine and multiengine, general purpose families of airplanes and helicopters. There are many cases, however, in which the PTS standards are inappropriate. For example, many large aircraft have speed command systems in which the correct final approach speed varies according to the center of gravity (CG) and flight conditions.

2) When the operator conducts special operations, such as lower than standard minimum takeoffs, the POI shall ensure that the tolerances the operator chooses are appropriate to that operation. For example, on an RVR 600 takeoff with an engine loss, the applicant must be able to continue to track the runway centerline lights until the aircraft is rotated to the takeoff attitude.

B. Operators may choose to publish the maneuvers and procedures description in a section of the GOM for reference by flight crewmembers. The FAA recommends, however, that this description be placed in a section of the flight manual where it is available for inflight reference.

7

UNCONTROLLED COPY WHEN DOWNLOADED
Check FSIMS to verify this version is current prior to use

3-3238. NONNORMAL AND EMERGENCY PROCEDURES. Nonnormal (or abnormal) and emergency procedures in an AFM or RFM are usually presented in more detail than are normal procedures. The steps and the order of steps in these procedures are often critical. POIs must exercise caution in approving the modification of nonnormal and emergency procedures. The effects of most procedural steps on the airworthiness of the aircraft are obvious, but the effects of some are not. For example, it may be necessary to depressurize a hydraulic system to successfully perform a manual landing gear extension. Deleting a step or a change in the sequence steps of such a procedure could make the procedure ineffective. There have been instances in which operators have erroneously proposed modifying an AFM or RFM procedure, and POIs have unintentionally approved the modification which invalidated the certification basis of the aircraft. POIs should use the guidance that follows when evaluating an operator's nonnormal or emergency procedures in AFMs, RFMs, or CFMs.

A. When an operator proposes to modify a nonnormal or emergency procedure, the operator must show that the modified procedure does not adversely affect the airworthiness of the aircraft. The operator may establish the safety and effectiveness of proposed procedures by analysis, documentation, or validation tests.

B. POIs must contact the applicable Aircraft Evaluation Group (AEG) and obtain concurrence before approving deletion of an item or the rearrangement of items on these checklists. AEG concurrence may be expressed informally (by telephone). AEG concurrence is not required if the operator provides evidence that the AEG has already concurred with the identical procedure for another party (such as another operator or manufacturer).

3-3239. IMMEDIATE ACTIONS. An immediate action is an action that must be accomplished so expeditiously (in order to avoid or stabilize a hazardous situation) that time is not available for a crewmember to refer to a manual or checklist. Crewmembers must be so familiar with these actions that they can perform them correctly and reliably from memory. POIs must ensure that immediate action situations are included in an operator's AFM, RFM, or CFM, as appropriate. Situations that require immediate action include, but are not limited to the following:

- Imminent threat of crewmember incapacitation
- Imminent threat of loss of aircraft control
- Imminent threat of destruction of a system or component which makes continued safety of the flight and subsequent landing improbable

A. Under this criteria, a flightcrew donning oxygen masks in response to a depressurization or turning off the fuel and ignition in case of a hot-start, are situations requiring mandatory immediate action items. The loss of thrust on a jet engine during cruise, however, would not normally require an immediate action item according to these criteria.

B. POIs must ensure that immediate action items are explicitly identified as such in an operator's CFM. It is not acceptable for immediate action items to be hidden (not specifically identified as an immediate action) in procedures or checklists.

C. Certain situations that either require or appear to require immediate action have proven to be a stimulus for evoking incorrect and inappropriate flightcrew actions. Therefore, immediate action items must be strictly limited to only those actions necessary to stabilize the situation. POIs must ensure that all remaining actions are accomplished by “challenge-do-verify” (CDV) checklists (see section 12 of this chapter).

D. POIs may approve an operator’s proposal to replace immediate action items in an AFM or RFM procedure with challenge-do-verify (CDV) checklist procedures in a CFM, provided the operator shows compliance with the criteria in this paragraph and also demonstrates an equivalent level of safety through validation tests.

3-3240. MANDATORY CONFIRMATION ITEMS. There are certain critical procedural steps that must be confirmed by a second crewmember before the step may be taken. POIs must ensure that an operator’s procedures which contain such critical procedural actions must clearly identify the critical actions and the crewmember who is responsible for giving the confirmation. The types of procedural actions that require this confirmation include the following:

- Actions resulting in the shutting down of an engine
- Actions resulting in the deactivation of flight controls
- Actions that if performed incorrectly, in the wrong sequence, or at the wrong time produce a catastrophic result, even if the incorrect action is not highly likely
- Actions where past experience or analysis has shown that there is a high probability for error or incorrect action and which creates a hazardous situation

3-3241. CREWMEMBER ROLES. The CFM must clearly define the various crewmember roles and responsibilities. POIs should use the following guidance when ensuring that the operator clearly states policy and guidance for cockpit management in the AFM, RFM, or CFM, as applicable.

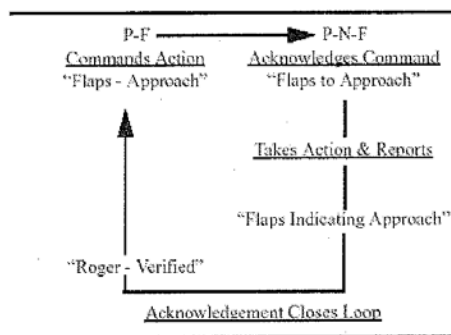
A. PIC Responsibilities. The operator’s policy and guidance should make it clear that the PIC’s primary responsibility is to manage the actions of the crew and the conduct of the flight. While the PIC may delegate the management of the flight and manipulation of the controls to the SIC, the CFM must not indicate that the PIC can delegate the responsibility for safe conduct of the flight.

B. Responsibilities of Flight Crewmembers Not in Command. The operator’s flight manual should contain policy and guidance to those flight crewmembers not in command, as to their responsibilities to the PIC and their responsibilities for the safe conduct of the flight.

C. SIC Responsibilities. The CFM must contain guidance for the PIC concerning the conditions and circumstances in which an SIC may operate the aircraft. The operator's policies must delineate the limits of authority delegated to the SIC when the SIC is the pilot flying (P-F). The operator's policies should address crew management in critical situations. For example, there may be certain situations in which the SIC should be the pilot-flying (P-F) so that the PIC can concentrate on managing those situations, particularly ensuring that required actions and appropriate checklists are properly accomplished. Procedures for transfer of control must be clearly addressed in the CFM.

D. Communications. In general, proper cockpit management requires effective communication and cooperative action between crewmembers which form consecutive closed loops. A diagram of this interaction is in the illustration (Figure 3-) that follows.

Figure 3-123A, Effective Communication and Cooperative Action Between Crewmembers



E. Coordination. Research has shown that effective flightcrews coordinate their actions before any action is required. POIs shall ensure that CFMs contain a requirement for briefings and also adequate guidance for the content of those briefings.

3-3242. OPERATIONS NOT EVALUATED IN AIRCRAFT CERTIFICATION. If the operator proposes to conduct operations which have not been evaluated during aircraft certification, the POI must ensure that the operator has developed and obtained approval of procedures for the conduct of the proposed operation. Such operations are often indicated by the absence of a procedure for the operation in the AFM or RFM. Examples of such operations could include powerback and taxi with engine shutdown. POIs should use the following guidance when evaluating those operations not evaluated during aircraft certification.

A. POIs must ensure that each operation conducted must be specifically addressed by a procedure. For example, it should not be assumed that a procedure for shutting down and then restarting an engine during a taxi delay is equivalent to a procedure for delaying an engine start on initial taxi-out. The same procedure may not be used for more than one operation unless analysis shows that more than one operation may be safely conducted using the same procedure.

B. POIs must ensure that an operational procedure is thoroughly coordinated with airworthiness inspectors. Since adverse effects that a procedure could cause to the airworthiness of an aircraft or its systems may not be immediately apparent, the POI must ensure that coordination with airworthiness is required. For example, a procedure for taxiing with engine shutdown could have a detrimental effect on the landing gear system if high asymmetrical engine thrust is used during sharp turns. If there is any question concerning the effects a procedure may have on the airworthiness of the aircraft, the POI must coordinate with and obtain concurrence from the appropriate AEG before granting approval of the procedures.

3-3243. LIMITATIONS. POIs must ensure that when operating limitations are incorporated in a CFM, that each limitation was transferred from the AFM or RFM. POIs should use the following guidance when evaluating the limitations of an operator's CFM.

A. POIs should evaluate the operator's CFM to ensure that all AFM or RFM operating limitations are published in the CFM and are clearly identified as AFM or RFM limitations (see section 2, paragraph 3-3152B of this chapter). The limitations section of a CFM must contain every limitation from the AFM or RFM. Operators may add limitations to CFMs which were not in an AFM or RFM limitation. One method of accomplishing this is for the operator to express all operator-imposed limitations as policy statements in applicable procedures. When the operator chooses to blend AFM or RFM and operator imposed limitations in the limitations section of a CFM, the POI must ensure that the operator used a method for clearly distinguishing each AFM or RFM limitation from the operator-imposed limitations.

B. The operator is responsible for informing crewmembers of all AFM or RFM operating limitations. Crewmembers are responsible for observing all AFM or RFM limitations. The POI must ensure that the CFM contains a statement that crewmembers are responsible for being aware of and for observing all limitations.

3-3244. SELECTED PRACTICES. POI with certificate management responsibilities shall review their respective operator's operations manuals. This review should clarify under what conditions and circumstances flightcrews can make independent determinations about what constitutes a maintenance irregularity or discrepancy regarding departure when maintenance irregularities are noted at non-maintenance stations.

A. POIs shall determine whether operator's operations manuals contain criteria for the responsibilities of flightcrews during preflight and postflight inspection, when maintenance irregularities or discrepancies are noted at nonmaintenance stations.

B. When procedural discrepancies are discovered in the operations manuals POIs should take the necessary action to have those manuals corrected.

RESERVED. Paragraphs 3-3245 through 3-3260.