

VOLUME 3 GENERAL TECHNICAL ADMINISTRATION**CHAPTER 32 MANUALS, PROCEDURES, AND CHECKLISTS FOR
14 CFR PARTS 91K, 121, 125, AND 135****Section 6 Safety Assurance System: Evaluating, Accepting or Approving Maintenance-Related Manuals, Procedures, and Checklists****3-3261 REPORTING SYSTEM(S).**

A. Program Tracking and Reporting Subsystem (PTRS). For Title 14 of the Code of Federal Regulations (14 CFR) parts 91K and 125, use PTRS activity codes: 3302, 3303, 3626, 5302, 5303, and 5626.

B. Safety Assurance System (SAS). For 14 CFR Parts 121/135 use SAS automation. This section is related to SAS Element 1.3.2, (AW) Manual Management.

3-3262 OBJECTIVE. This section directs and guides aviation safety inspectors (ASI) on how to process, review, and accept/approve manuals, procedures, and processes for 14 CFR parts 121, 125, 135, and part 91K operators, as applicable.

NOTE: In this section, use of the term ASI includes principal maintenance inspectors (PMI), principal avionics inspectors (PAI), and any supporting ASIs.

3-3263 OVERVIEW OF MANUAL REQUIREMENTS.

A. Requirements of the Operator. Title 14 CFR requires operators to prepare and keep current various manuals and checklists that flight and ground personnel can use as direction and guidance when they conduct flight operations and maintenance.

B. Definitions. The following terms are defined according to their use in this order:

1) Abbreviated Procedure. A list of sequential procedural steps without an amplified description or amplified set of instructions.

2) Amplified Procedure. A description of sequential procedural steps with detailed explanatory descriptions and/or instructions accompanying each step.

3) Caution. An instruction concerning a hazard that, if ignored, could result in damage to an aircraft component or system that would make it improbable to continue flying safely. The term also applies to significant information or instruction that requires special emphasis.

4) Checklist. A formal list used to identify, schedule, compare, or verify a group of elements or actions. Although a checklist may be published in a manual, it is not intended to be used in conjunction with that manual. Checklists are usually formatted and presented on paper; however, they may be formatted on electronic or mechanical devices, or presented in an audio format. A checklist may or may not represent an abbreviated procedure. The items listed on a checklist may be unrelated and may not represent a procedure, such as most “normal” checklists. Abnormal and emergency checklists, however, do represent procedures.

5) Immediate Action. An action that must be taken in response to a nonroutine event so quickly that referencing a checklist is not practical. An event such as a loss of engine oil pressure would require flightcrew members to immediately shutdown the affected engine.

6) Manual. A collection of the information, policies, procedures, and guidance prepared by an operator to instruct company employees in the performance of their assigned duties.

7) Policy. A written requirement established by an operator’s management that appropriate employee personnel are expected to comply with. A policy may be within a procedure or stated separately. A written requirement such as “No flight may depart on a cross-country flight without a spare case of oil” is an example of a policy.

8) Procedure. A logical progression of actions and/or decisions in a fixed sequence that an operator prescribes to achieve a specified objective. In short, a procedure is step-by-step guidance on how to do something.

9) Recommendation. A preferred technique or action described by the operator that employees are expected to follow whenever practical. A recommendation is not a policy requirement.

10) Systems Management. The management of those systems that sustain the mechanical functions of the aircraft as opposed to the management of the aircraft’s thrust, flight path, or aerodynamic configuration.

11) Technique. A method of accomplishing a procedural step or maneuver.

12) Warning. An instruction about a hazard that, if ignored, could result in injury, loss of aircraft control, or loss of life.

3-3264 DISTRIBUTIONS AND AVAILABILITY OF MANUALS. Each operator must maintain a complete manual (or set of manuals) at its principal base of maintenance and must furnish a copy to the Federal Aviation Administration (FAA) certificate-holding district office (CHDO). In addition, each operator must make available or furnish applicable parts of the manual to users (i.e., flight, ground, and maintenance personnel who conduct or support flight operations and maintenance). The manual may be in conventional paper format or in another form that is convenient for the user. The operator must also make sure to keep the manuals current. Each user must have access to appropriate manuals or parts of manuals when performing assigned duties. Part 121 requires that each part 121 supplemental air carrier and commercial

operator carry appropriate parts of the manual on each aircraft when away from the principal base of operation to enable their use.

3-3265 REVIEW OF MANUALS.

A. Objective and Role of the ASI. ASIs must review manuals to ensure that they contain adequate content and comply with applicable regulations, safe operating practices, and the operator's operations specifications (OpSpecs). While ASIs are encouraged to provide guidance and advice to operators in the preparation of their manuals, the operator is solely responsible for developing and producing an acceptable manual.

B. Areas of Consideration. ASIs must consider all applicable portions of the manual when they conduct a review. The General Maintenance Manual (GMM)/General Practices and Procedures (GPP), Continuous Airworthiness Maintenance Program (CAMP), and portions of the General Operations Manual (GOM) have maintenance information that requires reviewing. ASIs should review sections of manuals that include deicing procedures, airworthiness determinations, forms, and maintenance away from the home base procedures. It is important that similar procedures in different manuals do not contradict each other or negatively impact safety of flight issues.

C. Initial Review. Before part 121 or 135 air carriers or part 125 air operators are initially certificated, ASIs must review their flight manuals (fm) and GMM/GPP. During the initial review of the GMM/GPP, ASIs must ensure that the operator has addressed all of the applicable subjects. Manuals must present each subject with enough detail to ensure that personnel can properly carry out the policy or procedure for which they are responsible.

D. Review of Changes to Manuals. ASIs should review each revision or proposed revision to a manual. They should not limit this review to a strict consideration of the change itself, but should also consider the impact of the change on the operator's overall manual system, training program, and type of operation. The ASIs should also review applicable sections of the manual when there are changes in the operator's OpSpecs.

E. En Route and Ramp Surveillance. ASIs conducting en route and ramp inspections should (if applicable) review the Flightcrew Operating Manual (FCOM) and those portions of the GMM/GPP that the flightcrew carries for completeness and currency. When a flight is long enough to make it practical, ASIs should review these manuals in depth.

F. Periodic Review of Manuals. Periodically reviewing an operator's manuals is necessary because both the aviation environment and the maintenance conducted by the operator are constantly changing. The CHDO is responsible for developing a surveillance plan for the operator's manual system based on risk analysis. Principal inspectors (PI) and other assigned ASIs should coordinate periodic reviews with each other to avoid redundant reviews.

3-3266 FORMAT AND STYLE OF MANUALS. In general, manuals and checklists should be easy to use and understand, and in a format that can be easily revised. When evaluating manuals and checklists for ease of use and understanding, ASIs should consider the following guidance concerning format and style.

A. Form. An operator may prepare all or part of a manual and maintain it in conventional paper format (book form) or in other forms, such as computer-based storage with electronic image.

B. Preface Page. The first page of a manual can be a preface page containing a brief statement about the manual's purpose and intended user. The preface page may also contain a statement that emphasizes that all company and contracted personnel are to follow the procedures and policies in the manual.

C. Revision Control. The manual should be easy to revise. In addition, each manual should contain a revision control page or section from which the user can readily determine whether the manual is current.

1) Revision Control Page. This page or section may preferably follow the preface page, but it can be organized in any logical manner. For part 91, according to part 91, § 91.1025, each program operating manual must have the date of the last revision on each revised page. For part 121, according to part 121, § 121.135, each manual required by § 121.133 must have the date of last revision on each page concerned. For part 135, according to part 135, § 135.23, each manual shall have the date of the last revision on each revised page. For part 125, according to part 125, § 125.73, each manual shall have the date of the last revision and revision number on each revised page.

2) Bulletin System. Complex operators may establish a bulletin system to notify users of any temporary information or changes that a formal revision process should not delay. The bulletin system should have a way to give bulletins a limited life and systematically incorporate them into appropriate manuals in a timely manner. Users should be able to easily determine whether they possess all current bulletins.

D. Table of Contents. Each manual may have a table of contents containing lists of major topics with their respective page numbers.

E. References. Manuals may include references to specific regulations when appropriate. A reference to regulations or other manual material may be appropriate when it is necessary to clarify the intent of the text or when it is useful to the user for looking up specific subject matter. Operators should use caution when adapting the text of advisory documents into their manuals since advisory text may not translate into a directive context.

F. Definitions. Significant terms used in manuals can be defined. Any acronym or abbreviation not in common use may also be defined.

G. Elements of Style. Manuals and checklists can use the style of general technical writing. This style should be clear, concise, and easy to understand. When evaluating manuals, ASIs should know the following suggestions for accomplishing clarity in technical writing:

1) Whenever possible, manuals can use short, common words. Examples of this include: using the words "keep" or "hold" instead of "maintain;" using the word "start" instead of "establish;" and using the word "stop" instead of "terminate."

2) When a word has more than one meaning, manuals should use the most common meaning. For example, manuals should use the word “observe” to mean “see and take notice of” rather than “obey and comply.”

3) Standardize terminology that appears throughout the manual. The manual should not use a particular term one way and then use it again in another way.

4) Terms that command actions may be clearly defined, such as “checked,” “set,” and “as required.” Since auxiliary verbs such as “may” and “should” are ambiguous and can create room for doubt, the manual should not use them when commanding a definite action. Instead, use the verb “must” when commanding an action.

5) To emphasize specific notes in the text, cautions, warnings, and notes should be in the operator’s manuals and checklists.

6) Any instruction, particularly a warning or a caution, may begin with a simple directive in the imperative tense (i.e., the verb used for commands) that informs the reader of precisely what he or she must do. To avoid obscuring the directive in the background information, it must be stated first and an explanation must follow. An example of how background information can obscure a directive is as follows: “Warning—To avoid the hazard of striking ground handling personnel with the free end of a swinging tow bar, do not place feet on rudder pedals until the captain takes the salute from the ground handler. The hydraulic nose wheel steering can sling the tow bar with hazardous force.” In contrast, the following is an example of the preferred method of placing the directive first: “Warning—Do not place feet on rudder pedals until the captain takes the salute from the ground handler. The hydraulic nose wheel steering can sling a tow bar with sufficient force to cause serious injury to ground handling personnel.”

7) One should not overload descriptions in the manual, but may present them simply and sequentially. An example of an overloaded description is as follows: “An engine drives the alternating current (AC) generator at a constant speed of 8,000 revolutions per minute (rpm) regardless of the speed of the engine or the load on the generator.” The following is an example of a clearer, more concise description: “A constant speed drive (CSD) is mounted between each engine and generator. The CSD holds the generator speed at a constant 8,000 rpm.”

8) Avoid long sentences in the manual. The following example consists of subject matter put into a long sentence, which makes it difficult to understand: “During gear retraction, the door-operating bar located on the landing gear leg contacts and turns the latch, withdrawing the roller from the slot as a second roller entraps the door-operating bar.” The following example consists of the same subject matter used in the previous example; however, when it is broken down into shorter sentences, it is easier to understand. “During landing gear retraction, the door-operating bar on the landing gear leg is pressed against the door latch. The latch turns, thus freeing the door roller. The roller moves out of the slot. A second roller then traps and holds the door-operating bar.”

3-3267 ADEQUACY OF PROCEDURES.

A. Objective Statement. The objective of a procedure may be stated clearly. However, this is not necessary if the objective is commonly understood.

B. Logical Sequence. Procedures are to flow in a logical and sequential step-by-step format rather than in a narrative format. The most effective procedures are usually simple and each contains only the information necessary for accomplishing that procedure.

C. General Considerations. ASIs should also consider the following items when reviewing procedures in a manual:

- 1) A procedure may be an acceptable method for accomplishing an intended objective.
- 2) Each step of a procedure may clearly identify the individual responsible.
- 3) The acceptable standards of performance for a procedure are to be stated if those standards are not commonly understood or obvious.
- 4) Since procedures involve a variety of users with differing degrees of expertise, a manual may provide adequate information concerning the accomplishment of a procedure for the least experienced user. A procedure may be described very briefly and concisely when the user can achieve the objective without extensive direction or detail. But when the user has limited training or experience, a procedure can be described in enough detail for the user to correctly accomplish it. When the user has limited access to other sources of information and guidance while performing a procedure, the manual should provide enough detail so that he or she does not have to rely on other sources of information.
- 5) When a form, checklist, or tool is necessary to accomplish a procedure, the procedure may indicate location of that item.

3-3268 GENERAL PROCESS FOR APPROVAL OR ACCEPTANCE. The general process of approval or acceptance of certain programs, documents, procedures, methods, or systems is an orderly method used by Flight Standards Service (AFS) inspectors to ensure that such items meet regulatory standards and provide for safe operating practices. It is important for an inspector to understand that the approval or acceptance process is not all-inclusive, but rather a tool to use with good judgment in conducting day-to-day duties and responsibilities.

A. Indicating Approval. An inspector grants approval by letter, by a stamp of approval, or by some other official means of conveying approval.

B. Acceptance. Other proposals, submissions, or requests not requiring specific FAA approval but required to be submitted to the FAA are items that are presented for acceptance. The inspector may accomplish acceptance of an operator's proposal by various means including a letter, verbal acceptance, or by taking no action, which indicates there is no FAA objection to the proposal.

NOTE: Volume 3, Chapter 1, Section 1 contains additional information on the general process for approval or acceptance.

3-3269 REFERENCES, FORMS, AND JOB AIDS.

A. References (current editions):

- Part 91, §§ 91.1023, 91.1025, and 91.1427;
- Part 121 Subpart G, and § 121.369;
- Part 125 Subpart C, and § 125.249; and
- Part 135, §§ 135.21, 135.23, and 135.427.

B. Forms. None.

C. Job Aids. None.

RESERVED. Paragraphs 3-3270 through 3-3285.