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# Advisory Circular

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**Subject:** Required Inspection Items

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**Change:**

This advisory circular (AC) provides policy, guidance, and information on required inspections and items designated as Required Inspection Items (RII), which are part of a Continuous Airworthiness Maintenance Program (CAMP).

This AC applies to you if you are, or are seeking to become, either a Title 14 of the Code of Federal Regulations (14 CFR) part [121](#) or [135](#), § [135.411\(a\)\(2\)](#) air carrier. The information is also applicable if you are a part 135 certificate holder or a 14 CFR part [91](#) subpart [K](#) (part 91K) operator that has chosen to maintain your aircraft under a CAMP, using the provisions of part 91, § [91.1411](#) or § [135.411\(b\)](#), as applicable. Title 14 CFR part [125](#) operators or applicants will also find this required inspection information applies to their Aircraft Inspection Program (AIP) content.

This AC is not mandatory and does not constitute a regulation. This AC describes an acceptable means, but not the only means, of complying with 14 CFR. Because the methods in this AC are not mandatory, the term “should” applies only when you choose to follow these methods. You may elect to follow an alternative method provided your method is accepted by the Federal Aviation Administration (FAA).

The contents of this document do not have the force and effect of law and are not meant to bind the public in any way. This document is intended only to provide clarity to the public regarding existing requirements under the law or agency policies.

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## 1 GENERAL.

**1.1 Purpose of This AC.** This AC provides FAA policy, guidance, and information concerning required inspections and the designation of items under this system as Required Inspection Items (RII). Other FAA publications, specifically AC [120-16](#), Air Carrier Maintenance Programs, have addressed RIIs. However, with the critical role that required inspections have on ensuring the continued safe operation of aircraft in air transportation, the FAA has determined that more expansive and detailed information specific to required inspections, is warranted. Required inspections are 1 of the 10 required elements of a Continuous Airworthiness Maintenance Program (CAMP). This AC describes processes, techniques, and procedures that will lead to effective required inspection system procedures and methods to ensure that you, as a CAMP operator, maintain a level of safety appropriate to the type of operations conducted. To further aid in the development and management of required inspection procedures that are acceptable to the FAA, this AC proffers a comprehensive discussion of the following areas:

1. Defining required inspections and RIIs.
2. Designating items as RII.
3. Developing methods, techniques, and procedures for inspections.
4. Identifying standards and limits for determining acceptance or rejection.
5. Ensuring the performance of all required inspections.
6. Describing an inspection unit.
7. Procedures for work interruptions.
8. Procedures for correcting required inspection findings (buy-back).
9. Countermanding procedures.
10. Ensuring compliance with certificate holder’s required inspection procedures.
11. Required inspection training.
12. Contract maintenance.
13. Continuing Analysis and Surveillance System (CASS).

**1.2 Audience.** This AC applies to you if you have, or seek to have a Title 14 of the Code of Federal Regulations (14 CFR) part [119](#) Air Carrier Certificate and operate under 14 CFR part 121 or 135, § 135.411(a)(2). It also applies to you if you are a program manager and operate, or seek to operate under 14 CFR part 91 subpart K (part 91K), with aircraft you maintain under a CAMP. Further, this AC applies if you are a part 135 certificate holder operating aircraft with a seating configuration of nine passenger seats or less for which, while not required by regulation to maintain your aircraft under a CAMP, you have elected to do so. Finally, if you hold or are seeking an Operating Certificate under part 125, these procedures may be beneficial for developing the required inspection portion of your FAA-approved inspection program.

- 1.3 Where You Can Find This AC.** You can find this AC on the FAA’s website at [https://www.faa.gov/regulations\\_policies/advisory\\_circulars](https://www.faa.gov/regulations_policies/advisory_circulars).
- 1.4 Background.**
- 1.4.1** On May 20, 1964, the Federal Aviation Agency promulgated amendments to Civil Air Regulations (CARs) parts 40, 41, 42, and 46 that became effective on October 19, 1964. These rules were the precursors to current Federal Aviation Regulations parts 121, 125, and 135. The agency introduced the amendments because aircraft accident investigations and surveillance of air carriers indicated weaknesses in the airworthiness programs of some air carriers, with significant deficiencies being in the inspection area. As a result, the agency amended the regulations to require air carriers to have a maintenance and inspection organization. The rules also required that the certificate holder’s maintenance organization establish a separation between maintenance and inspection functions below that level of administrative control at which overall responsibility for the management of both the maintenance and inspections is exercised.
- 1.4.2** On December 23, 1964, a new amendment was issued to recodify the CARs into Chapter 1, Title 14 of the Code of Federal Regulations (14 CFR). In this amendment, parts 40, 41, and 42 were deleted and reintroduced into newly established part 121 of the Federal Aviation Regulations. Part 121 retained the language from the former regulations including those requirements regarding the carrier’s maintenance organization and required inspections. This amendment became effective on April 1, 1965.
- 1.4.3** Years later, the FAA issued substantial amendments to part 135 on October 10, 1978. These amendments, which became effective on December 1, 1978, introduced an upgrade in the level of safety for operations conducted by commuter air carrier, on-demand air taxi operators, and commercial operators. A principle change involved the introduction of the demarcation in maintenance requirements based on aircraft that are type certificated (TC) for a passenger seating configuration, excluding any pilot seat of 10 seats or more versus 9 or less. This major change was made to provide passengers traveling on an on-demand air taxi flight with a level of safety comparable to aircraft operated under part 121. Aircraft having a TC’d configuration of 10 or more passenger seats were required to be maintained under a CAMP, which includes required inspections.
- 1.5 Definitions.** For the purpose of this AC, the following definitions are applicable:
- 1.5.1 Acceptable.** With respect to the CAMP manual in general, and required inspection procedures specifically, acceptable refers to acceptable to the Administrator.
- 1.5.2 CAMP Operator.** An air carrier certificated under part 121 or 135, or a program manager under part 91K that is either required or chooses to maintain aircraft under a CAMP.
- 1.5.3 Maintenance Program.** In the context of this AC, maintenance program refers to a CAMP. The CAMP includes programs covering maintenance and inspections and contain, or exhibit 10 characteristics or elements as described in AC 120-16.

- 1.5.4** Manual. Unless noted otherwise, manual refers to that portion of a CAMP operator’s required manual containing the inspection program and the program covering other maintenance, preventive maintenance, and alterations. The manual also contains the administrative and implementation instructions and procedures for all aspects and elements of the CAMP. These include a description of the maintenance organization, RII procedures, the maintenance schedule/time limitations document, maintenance personnel training, recordkeeping procedures, the CASS, and contract maintenance procedures.
- 1.5.5** Designated. Designation is the act of indicating or identifying specifics; a calling out. The regulations require designation of safety-critical items of maintenance or alteration that require inspection, and a designation by occupational title of personnel with the authority to perform each required inspection. The CAMP manual method, which identifies safety-critical items and identification of the personnel authorized to perform the inspections of them, must be clear and well-defined.
- 1.5.6** RII. An RII is an operator-designated specific maintenance or alteration task, or process step that requires a unique, well-defined, and documented inspection. This designation must identify at least those items (tasks) that, if performed incorrectly or the use of parts and materials is improper, a failure, malfunction, or defect could result that would endanger the safe operation of the aircraft. RII designation can be to ensure proper performance of complicated tasks; a part, material, or function inspection during the performance of a larger task; and/or they may be tasks that are prone to human error.
- 1.5.7** Task. Within this AC, the term task signifies an RII as designated by the CAMP operator. Designated RII (tasks) are often depicted as “high-level” or generalized descriptions of maintenance on a system, component part, or area. Examples of RII maintenance task designations include installation and/or rigging of an engine, landing gear, or flight control. When such designations are used, your required inspection procedures must include the specific required inspection, or function, that is to be accomplished at a predetermined time, which may be either during or after the overall task is performed.
- 1.5.8** Required Inspection. Required inspections are safety controls mandated by regulation, which the CAMP operator must designate to ensure maintenance and alteration performance is at the highest level of safety possible. Unlike routine inspections that are typically generalized and subjective examinations or observations, a required inspection (function) is a critical, detailed examination of in-process maintenance and alteration work by an appropriately certificated, properly trained, qualified, and authorized person. This person is separate from the maintenance process and under an inspection unit’s supervision and control. The purpose of the required inspection is to validate proper performance of the designated function within the overall maintenance task and to verify the appropriate use of parts and materials. Persons conducting required inspection functions must do so in accordance with specific procedures contained in the CAMP operator’s manual.
- 1.5.9** Function. Regulations describing the requirements for a CAMP operator’s maintenance organization use the term “function” for two applications. First, they depict the action of performing maintenance, preventive maintenance, or alterations that are designated as

RIIs. Secondly, they depict the action of performing the actual required inspection. Within this AC, the term “function” is expanded to indicate the performance of the required inspection at the prescribed point at which, during the performance of the designated RII maintenance task, the required inspection is accomplished in accordance with your required inspection procedures and instructions. As a CAMP operator, you should have and identify required inspection instructions in your manual, depicting when the required inspection function is performed for each required inspection at a predetermined point of the maintenance task to ensure a specific, detailed inspection is accomplished in a consistent and repeatable manner.

- 1.5.10** Proper Maintenance. Proper maintenance means performing maintenance and alterations is accomplished in accordance with your manual.
- 1.5.11** Proper Parts or Materials. This means the parts and/or materials used to perform maintenance and alterations were provided and used as prescribed and in accordance with your manual.

## **2 REQUIRED INSPECTIONS.**

### **2.1 CAMP Overview.**

- 2.1.1** If you are a part 119 Air Carrier Certificate holder and operate under part 121 or § 135.411(a)(2), you must maintain your aircraft under a CAMP. Alternatively, if you are a part 91K program manager, or a part 135 certificate holder with aircraft having seating configurations of nine passengers or less, you are not required to maintain aircraft under a CAMP. However, you may use regulatory options that allow you to maintain your aircraft under a CAMP to perform maintenance at the highest level possible in regards to safety.
- 2.1.2** By regulations, each CAMP operator is required to have a manual. The maintenance portion of your manual must contain, or reference, all documents that are included in your CAMP. Operations Specification (OpSpec)/Management Specification (MSpec) D072, Aircraft Maintenance—Continuous Airworthiness Maintenance Program (CAMP) Authorization, issued by the FAA, identifies the documents that contain your CAMP design.
- 2.1.3** As the CAMP operator, you design and develop your own CAMP that must be acceptable to the Administrator. It must include the inspection program and a program covering other maintenance, preventative maintenance, and alterations. To be acceptable to the Administrator, your CAMP should contain or exhibit 10 characteristic elements and be comprehensive in scope and detail to fulfill your airworthiness responsibility as a CAMP operator. The FAA issues OpSpec/MSpec D072 to authorize you to maintain your aircraft under a CAMP. By regulation, the performance and effectiveness of your CAMP is under continual analysis and surveillance through your CASS. The purpose of a CASS is to identify and correct deficiencies within your CAMP.
- 2.1.4** If you operate under part 121 or 135 (with aircraft having 10 or more passenger seats), RII requirements apply to you. However, if you operate under part 91K or 135 (with

aircraft having nine or less passenger seats), RII requirements only apply if you elect to maintain your aircraft under a CAMP as provided for in § 91.1411 or § 135.411(b). Part 125 certificate holders are not subject to the requirements of a CAMP, but are required to select an inspection program they intend to use per part 125, § [125.247\(e\)](#). As depicted in § [125.249](#), the inspection program required by § 125.247, which is approved by the FAA, must include RII designations, methods, procedures, separation controls, and work interruption procedures.

- 2.1.5** Every CAMP must contain an inspection program and a program covering other maintenance, preventive maintenance, and alterations (refer to § [91.1425](#), part 121, § [121.367](#), and § [135.425](#)). Required inspections, which are uniquely different and performed separately from your scheduled or unscheduled inspection program, involve the designation of certain items of maintenance and alterations as “RII” and a focused, detailed inspection of that item or “function.” You use required inspections to verify the proper performance of these designated items of maintenance and alterations that, if not performed properly or improper parts or materials are used, could result in a failure, malfunction, or defect that would endanger the safe operation of the aircraft.

## **2.2 Required Inspection Policy and Guidance.**

- 2.2.1** RII Information. AC 120-16 identifies 10 elements that comprise a CAMP. AC 120-16, Chapter 7, Required Inspection Items, contains information on RIIs and identifies required inspections as 1 of the 10 elements of a CAMP. However, the required inspection information in that AC is introductory and does not provide the necessary level of scope and detail of the procedures and instructions that must be present in your manual. The information presented herein will aid you in preparing required inspection processes that conform to FAA policy, guidance, and regulatory expectations.
- 2.2.2** Responsibility for Required Inspections. Sections [91.1413](#), [121.363](#), and [135.413](#) establish you, the CAMP operator, as primarily responsible for maintaining the airworthiness of your aircraft in accordance with the CAMP contained in your manual, regardless of who performs the work. Aircraft manufacturers are not required to establish or identify RIIs in their Aircraft Maintenance Manual (AMM) or instructions for continued airworthiness (ICA). Rather, you have the responsibility to designate specific maintenance or alteration tasks, or functions within a task, as a required inspection. Your manual is required to provide information as necessary to allow the personnel concerned to perform their duties and responsibilities with a high degree of safety. Your manual may reference a specific chapter, page, and/or paragraph contained in the AMM for the step-by-step instructions when applicable. However, if you use an AMM reference, it does not negate your responsibility to ensure the procedures are comprehensive, detailed, and effective. A generalized instruction that makes nonspecific references to the AMM for procedures intended to cover all required inspections is not acceptable to the Administrator. You are responsible to designate each item that requires inspection, and your manual is required to provide the necessary methods, procedures, instructions, standards, and limits that enable personnel to perform their required inspection duties and responsibilities with a high degree of safety.

### **2.3 CAMP Manual Regulatory Requirements for Required Inspections.**

- 2.3.1** The regulations require you to include required inspection procedures and instructions in your manual. Your manual must include a description of your maintenance organization, a list of persons with whom you have arranged for the performance of any of your required inspections, and a designation by occupational title of personnel authorized to perform each required inspection.
- 2.3.2** In addition, your manual must include the designated RII; the method of performing required inspections; and the procedures, standards, and limits necessary for required inspections and acceptance or rejection of the item required to be inspected. Your manual must include procedures to ensure all required inspections are accomplished and instructions to prevent any person performing an item of work from performing any required inspection of that work.
- 2.3.3** Finally, your manual must have procedures to address reinspection of required inspections, (also referred to as buy-back procedures), countermanding procedures, and work-interruption procedures. The following paragraphs address each of these requirements in detail.

## **3 MAINTENANCE ORGANIZATION.**

### **3.1 Maintenance Organization Regulatory Requirements.**

- 3.1.1** Sections [91.1423\(a\)](#), [121.365\(a\)](#), and [135.423\(a\)](#) contain organizational requirements for CAMP operators, as applicable. If you perform, or have personnel perform any of your maintenance (other than required inspections), preventive maintenance, or alterations, you, as well as each person with whom you arrange for the performance of that work, must have an organization adequate to perform that work.
- 3.1.2** Sections [91.1423\(b\)](#), [121.365\(b\)](#), [125.245](#), and [135.423\(b\)](#) require you and/or persons with whom you arrange to perform inspections required by your manual, (herein referred to as required inspections) to have an organization adequate to perform that work. Your inspection organization is responsible for determining that both the workmanship and materials used conform to the regulations and your manual.
- 3.1.3** Sections [91.1423\(c\)](#), [121.365\(c\)](#), and [135.423\(c\)](#) contain an additional requirement for organizing the performance of maintenance functions and required inspection functions, so as to separate the required inspection functions from the other maintenance, preventive maintenance, and alteration functions. The separation must be below the level of administrative control at which persons exercise overall responsibility for the required inspection function and other maintenance, preventive maintenance, and alteration functions.
- 3.2 Separation of Inspection Functions.** The regulations require that you must provide for a separation between the performance of required inspection functions and the associated maintenance or alteration functions. The most direct means to ensure separation of functions is to establish full-time inspection and maintenance departments; however, this

does not mean that doing so is your only option. The focus of the separation is on the person performing the required inspection. Your procedures and controls should be strong enough to ensure that any person you assign to perform the inspection, or persons you have arranged to perform the required inspection, are not involved in performing the maintenance or alteration work task designated as an RII.

- 3.3 Level of Administrative Control.** The level at which persons exercise overall responsibility for the required inspection function and other maintenance, preventive maintenance, and alteration functions, is typically the position of the Director of Maintenance (DOM). Regardless of the title, it is a position required by part 119 and is regarded by the FAA as having primary authority and responsibility over the entire maintenance organization. As such, the Chief Inspector (CI) position and/or the inspection personnel, if present within your maintenance organization, would fall, organizationally, under the control and authority of the DOM position. Therefore, the DOM position is that level of administrative control at which overall responsibility for required inspection functions and other maintenance, preventive maintenance, and alteration functions is exercised. The designated maintenance or alteration functions, as well as the required inspection functions, would be performed below the DOM position.
- 3.4 Organizational Adequacy.** The regulations require you to have an adequate organization. However, the regulations do not prescribe how to determine adequacy; that is your responsibility. You must determine the number of personnel you, or other persons you use under contract, must have to be considered adequate. Additionally, §§ 91.1423(c), 121.365(c), and 135.423(c) recognize that you, or other persons with whom you have arranged to perform maintenance for you, can use personnel for both maintenance and required inspections. Operators under part 125 must also ensure they have, or contract with persons that have an adequate maintenance organization. When establishing or determining organizational adequacy, you should consider the regulatory phrase, “adequate to perform the work.” You should also take into account the requirement to perform your services with the highest possible degree of safety.
- 3.5 Managerial Positions.** While the number of required inspection personnel is not defined in the regulations, the required managerial positions for your maintenance organization are clearly depicted. Part 91, § [91.1413\(b\)](#) and part 119, §§ [119.65](#) and [119.69](#) prescribe the requirements for parts 91K, 121, and 135, respectively.
- 3.5.1** If you operate under part 121, you must have a DOM and a CI, or equivalent positions. The DOM is responsible for the entire maintenance organization while the CI is responsible for the inspection unit, which is separate from the maintenance organization but still falls under the overall responsibility of the DOM.
- 3.5.2** If you are a part 135 certificate holder, the regulations provide greater flexibility and scalability of the maintenance organization. You are only required to have a DOM, per § 119.69. A CI is not a required position for part 135 CAMP operators.
- 3.5.3** If you are a part 91K program manager maintaining aircraft under a CAMP, § 91.1413 stipulates that you must employ both a DOM and CI, or equivalent positions.

- 3.6 Organizational Chart or Description.** Sections [91.1427\(a\)](#), [121.369\(a\)](#), and [135.427\(a\)](#) require you to put in your manual a chart or description of your organization that performs required inspections, as required by §§ 91.1423(b), 121.365(b), and 135.423(b), plus a list of persons with whom you have arranged for the performance of your required inspections including a general description of that work. You are responsible to keep this information current, available to the FAA for inspection, and readily available for use by persons who need it (such as persons involved in contract maintenance, alterations, training, or auditing).
- 3.7 Designation by Occupational Title.** Sections [91.1427\(b\)\(3\)](#), [121.369\(b\)\(3\)](#), and [135.427\(b\)\(3\)](#) require you to include in your manual a designation by occupation title of personnel authorized to perform each required inspection. Examples of occupational titles are aircraft mechanic, aircraft inspector, aircraft maintenance supervisor, and aircraft maintenance foreman.

#### **4 THE SUPERVISION AND CONTROL OF AN INSPECTION UNIT.**

- 4.1 Inspection Units.** Sections [121.371\(b\)](#) and [135.429\(b\)](#) state that “no person may allow any person to perform a required inspection unless, at that time, the person performing that inspection is under the supervision and control of an inspection unit.” While part 91 does not mandate an inspection unit, § [91.1429\(b\)](#) does require that persons performing required inspections must be under the supervision and control of the CI. The regulations do not define an inspection unit. However, as part of the clarification of required inspection policy, we define an inspection unit as a component of your maintenance organizational structure. It is the organizational subgroup required by §§ 91.1423(b), 121.365(b), and 135.423(b) that must be adequate to perform the work of required inspections. Your manual must, per regulations §§ 91.1427(a), 121.329(a), and 135.427(a), contain a chart or description of your organizational structure. This subgroup, which your manual charts or describes as including persons with the authority to perform required inspections, is your inspection unit. The individuals in this subgroup must be identified on lists required by §§ [91.1429\(d\)](#), [121.371\(d\)](#), and [135.429\(e\)](#). It is your responsibility to describe your maintenance organization, to include the inspection unit, in your manual.
- 4.1.1** Your inspection unit may consist of full-time inspectors within your maintenance organization working under the supervision of a CI, which is a position required for part 121 air carriers and part 91K operators, but is not required under part 135.
- 4.1.2** Alternatively, your inspection unit may be described as a temporary organizational structure that is put into effect to perform a required inspection. Often, this involves cross utilization of maintenance personnel to perform required inspections. The regulations require that persons performing required inspections do so separately from maintenance functions and perform those inspections under the supervision and control of an inspection unit.
- 4.1.3** The intent of the inspection unit is to ensure the proper performance of maintenance. A person under different supervisory control and leadership, and who did not perform any

item of the maintenance work, provides an unbiased inspection of that work to validate it is proper. Establishment and identification of an inspection unit is normally not a problem if you, or your maintenance provider, have full-time or dedicated required inspection personnel that work within a structured inspection department or unit. In smaller organizations, however, it is incumbent upon the CAMP operator to clearly define this structure in its manual and describe how it controls this separation to ensure unbiased inspections are done.

#### **4.2 CI Requirements.**

- 4.2.1** For part 91K operators with a CAMP, § 91.1429(b) specifies that required inspections must be performed under the supervision and control of your CI. Similarly, part 119 requires that part 121 certificate holders must have a CI. These managerial position requirements form the basis for a definitive inspection unit within your respective maintenance organizations. Notwithstanding these managerial position requirements, the context of the regulations do not require a full-time separate inspection department.
- 4.2.2** If you are a part 135 CAMP operator, you are not required to have a CI. A part 135 CAMP operator’s maintenance organization may only consist of the DOM. While not obligated to have dedicated inspection personnel or a full-time inspection department (or unit), you are responsible to meet the requirement of separating the required inspection functions from other maintenance functions. The DOM is the person with overall authority of both the inspection and maintenance functions and as such, may not perform the required inspection. Therefore (in very small organizations), the certificated person performing the required inspection could be (by themselves) the inspection unit under which they are working and being supervised. It is very important for your manual to describe your organization and provide the procedures and controls that will ensure separation between the inspection and maintenance functions.
- 4.2.3** If the DOM is the only maintenance person employed by you, then all other maintenance and inspection personnel would need to be contracted to perform work on your behalf. It is critical for your manual to describe how you arrange, organize, manage, and administer control over these contract maintenance providers with a full explanation as to how you ensure that any contracted persons performing required inspections will be controlled and supervised within an inspection unit. You may need to consider various methods, such as establishing a temporary inspection unit that is only active when a required inspection is performed. Under this structure, when a separate inspection organization does not exist, a certificated and authorized maintenance technician can be repositioned from the maintenance unit to the inspection unit temporarily for the purpose of performing the required inspection. This certificated person could also be acting (at the time of the inspection) as the supervisor of the inspection unit. This provides for the separation in functions at the appropriate level by shifting the person assigned to perform the required inspection from the control of the maintenance unit to the control of an inspection unit. The DOM continues to have overall responsibility over the entire maintenance organization that includes the certificated and authorized inspector and the (other) maintenance technician that performed the maintenance work requiring inspection. Concurrently, just as the procedures must be incorporated into the manual to define this

change in control, there should also be a description of the duties and responsibilities associated with each assigned position.

- 4.3 Cross Utilization.** In cases where you, or other persons, cross utilize personnel to perform both maintenance and inspection functions, there should be an actual change in the control of that person from the maintenance unit to the control of the inspection unit. Smaller CAMP operators that cross utilize persons to perform both maintenance and inspection functions will need to establish procedures that will accommodate and ensure that separation is evident when a required inspection is to be performed.
- 4.4 Supervision of Inspection Units.** Sections 91.1429(b), 121.371(b), and 135.429(b), call for the supervision of the person in the inspection unit performing the required inspection. You should note that these regulations direct compliance at the person with authority and responsibility for allowing (assigning or directing) another person to perform the required inspection. This person might be a manager, supervisor, or maintenance controller who assigns work. In a smaller organization that consists of just a few maintenance technicians, the certificated, authorized, and listed person performing the required inspection can (at the time of the inspection), comprise the entire inspection unit. The intent of the regulation is to ensure the person performing the required inspection is not subject to the same pressures, circumstances, and assumptions that the person performing the work is subject. The inspection unit’s only responsibility is to ensure the materials used and maintenance performance is proper and correct. Regardless of your organizational structure, significant and well-documented controls that enable personnel to make safety-sensitive decisions without pressure is the purpose of the inspection unit requirement. Your manual will describe how you and other persons will comply with this requirement. It is important for your manual to establish the authority and control of the inspection unit for required inspections and your management and maintenance personnel to know and understand the principles under which it performs.
- 4.4.1 Inspection Unit Supervisor.** Although the regulations do not require an inspection unit supervisor, it is both logical and apparent in the reading of the regulations under part 121 and to some extent, part 135. Additionally, it is supported by the requirements in §§ 121.365(b) and 135.423(b), particularly if you are a part 135 CAMP operator that elected to incorporate an inspection unit into your maintenance organization. The supervisor may be the CI or any other qualified person you chose. However, it is important that the supervisor be separate from the maintenance unit in responsibility, authority, and interest to ensure the independent nature of the required inspection. You must describe in your manual the requirements necessary to ensure compliance with this regulation for you and other persons that perform required inspections for you.
- 4.4.2 Separation of Maintenance and Inspection Functions.** If you are a part 135 CAMP operator and employ only the DOM, your manual must still contain a description of the maintenance and inspection organization that ensures the separation of maintenance and inspection functions. Because the separation must be below the level of administrative control at which overall responsibility for the required inspection functions and other maintenance, preventive maintenance, and alteration functions is exercised, the DOM

may not perform work designated as an RII, nor can he/she perform the required inspection of that work.

## 5 DESIGNATING ITEMS OF MAINTENANCE AND ALTERATIONS AS RII.

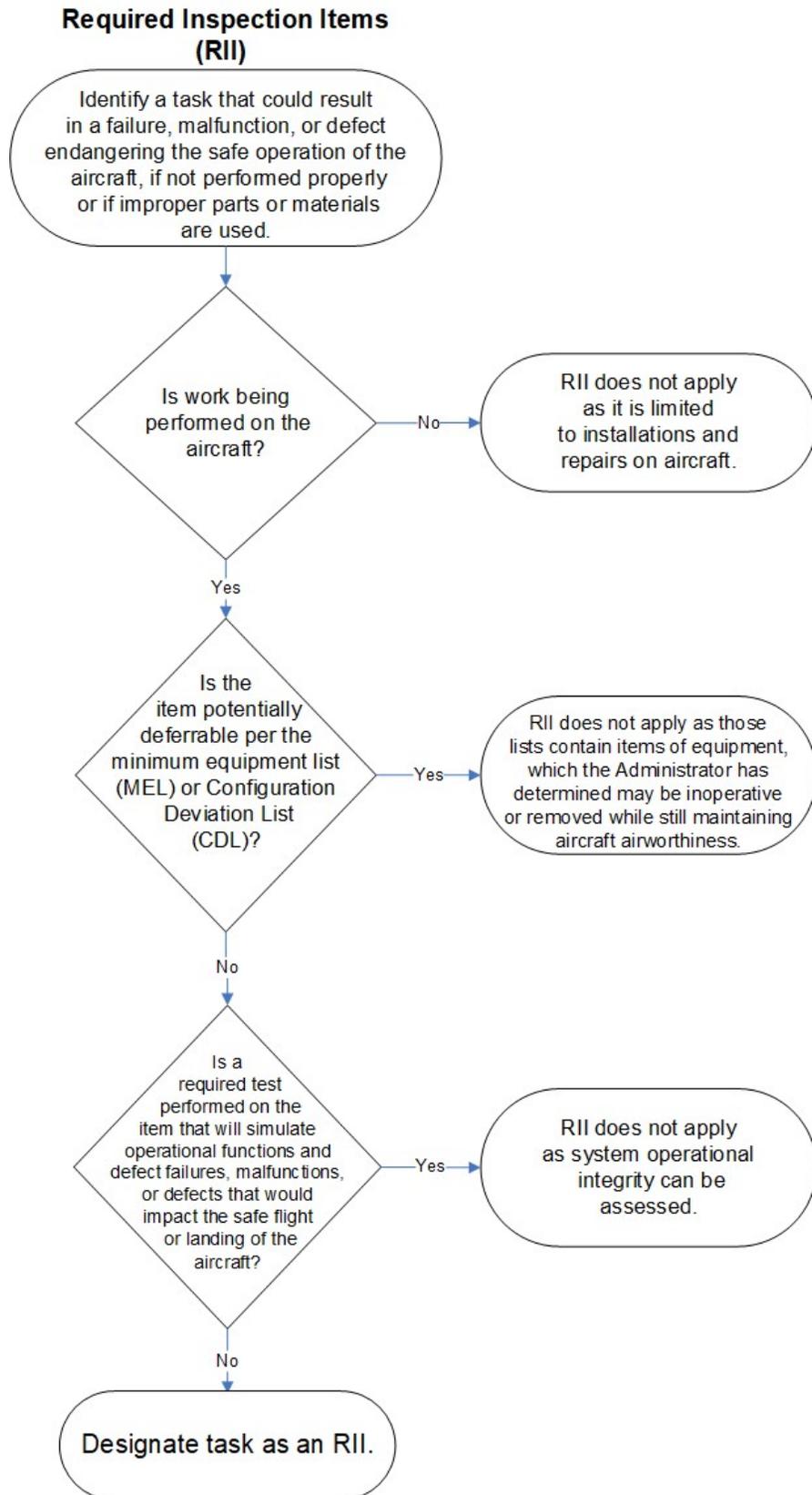
**5.1 Designating RII.** Sections [91.1427\(b\)\(2\)](#), [121.369\(b\)\(2\)](#), and [135.427\(b\)\(2\)](#) require you, the CAMP operator, to designate items of maintenance and alteration that must be inspected (required inspections) as an RII and list them in your manual. RIIs must include at least those items that, if not properly performed or if done with improper parts or materials, could result in a failure, malfunction, or defect that would endanger the continued safe operations of your aircraft. When determining which items of maintenance and alteration to designate as RIIs, it is important that you consider and account for the phrases, “at least those,” “that could result,” and “improper parts or materials.”

**Note:** The FAA considers the phrase “at least those” as a strong indicator that each CAMP operator will have certain tasks that meet the criteria of an RII. As such, should you contend that your program does not include RII, it would likely result in the FAA determining that your CAMP is not acceptable and will not be authorized.

**5.2 Required Inspection Scope.** The designation of your RIIs should not be too broad in scope, or solely comprised of a listing of generalized overall maintenance or inspection tasks, such as replacing or rigging primary flight controls, replacing or rigging landing gear, engine installations, etc. Designations of this nature are generic and would not be acceptable unless they also include a depiction of the specific function(s) within those tasks to be inspected as the focus of the required inspection. While these tasks are significant, such generalized listings alone do not meet the intent of the regulation. If you provide a generalized listing of tasks as your RIIs, the required inspection procedures in your manual must further identify the function(s) or step(s) within the task(s) as the target of the required inspection.

**5.3 Making Required Inspection Lists.** Your RII list should identify specific items of maintenance for each aircraft type you operate. It is inappropriate to designate entire systems as RIIs. You should adhere to a decision process (see Figure [1](#), RII List Decision Process) when creating a list of RIIs:

**Figure 1. RII List Decision Process**



#### **5.4 Standardized RII Listings and Other Industry Resources.**

- 5.4.1** The required inspection regulations are written as performance-based requirements and do not provide a standardized list of RIIs (tasks). Considering the numerous maintenance systems being used and different configurations of the same make and model aircraft, a standardized list may inevitably conflict with some programs and ultimately diminish your obligation to be “primarily responsible” for the airworthiness of your aircraft.
- 5.4.2** Some organizations within the aviation industry have pursued the concept of standardized lists. For example, Airlines for America (A4A) has published ATA Spec [108](#), Required Inspection Items (RII) Best Practices. Among other things, this specification provides operators with a standardized RII list based on collaborative data from air carriers that operate common equipment and have similarities in their respective RII lists and procedures. ATA Spec 108 also offers decisionmaking tools and recommendations for identifying RIIs with a primary objective of sharing this data among other air carriers and seeking the concurrence from the FAA with an expectation that these standardized lists would be acceptable to the FAA.
- 5.4.3** One of the objectives of this AC is to clearly state that required inspection procedures must include more than just listings of the RII (task). Specifically, your manual must also place emphasis on the procedures that authorized personnel must follow to perform the inspection function, which will be unique for each air carrier or operator. These requirements do not lend themselves to common tasks or standardized instructions or procedures. Rather, the rules specify that you are responsible for designating your RIIs along with the appropriate supporting procedures, and that you are also responsible for the results.
- 5.4.4** Therefore, the FAA neither endorses nor rejects the concept of industry-generated lists and internal procedures. The FAA has no regulatory authority to require that an operator adopt a given RII list or individual item, nor does an operator’s responsibility to required inspection requirements end by adopting a so-called standardized list.

### **6 DETERMINING RIIs.**

- 6.1 Required Inspections and Flight Safety.** Required inspections correlate directly with flight safety. Therefore, you should consider all of your required inspections with the same safety of flight consideration and emphasis even if accomplishing an individual required inspection adversely affects your flight schedule, relates to a scheduled or unscheduled task, arises at an awkward time during a maintenance visit, or must be performed at an inconvenient location. Your manual should have procedures on how you will make RII determinations, and you should also identify the person(s) authorized and accountable for determining RIIs. You should base your methods for determining RIIs on regulatory requirements and sound principles. RII determinations must consider such things as failure consequences resulting from improperly performed maintenance or alterations, and the use of improper parts and materials. You should consider using the expertise of the aircraft manufacturer’s technical maintenance documents and any applicable instructions that are reflected in notes, cautions, warnings, comments, alerts, or

otherwise identified as significant steps in the maintenance task. These are good indicators of aspects in the maintenance task that, if done improperly, could result in creating an unsafe condition. Additionally, the National Transportation Safety Board’s (NTSB) Aviation Accident Database and Synopses contains accident information relating to RII failures, which can be useful. However, the responsibility for determining and listing RIIs remains with you, the CAMP operator.

**6.2 Identifying Items of Inspection.** In order to maintain its significance, the list of required inspections should not be broad or over-inclusive. Instead, the CAMP operator should identify specific items of inspection for each aircraft. (It is inappropriate to designate entire systems or tasks as RIIs.)

**6.3 RII Examples.** Some examples of items that may call for required inspections are:

- Proper torque and retainment device installation for engine and landing gear mounting hardware;
- Correct travel, cable routing, tensioning, hardware fitting/torque, and retainment device installation for flight control surfaces; and
- Emergency equipment installations for post-installation activation and rigging.

**6.4 On-Wing Versus Off-Wing.** FAA policy defines on-wing essential maintenance as the performance of maintenance that is associated with an air carrier RII. Essential maintenance does not encompass any off-wing maintenance. However, the regulations do not prohibit you from designating RII for maintenance tasks performed off-wing. Therefore, if you elect to do so, you would not be restricted from designating maintenance tasks performed off-wing as an RII.

## **7 METHOD OF PERFORMING REQUIRED INSPECTIONS.**

**7.1 Required Inspection Method (Means).** Sections 91.1427(b)(3), 121.369(b)(3), and 135.427(b)(3) require you to include in your manual the method of performing required inspections. The term “method” is also found in §§ [91.1427\(b\)\(1\)](#), [121.369\(b\)\(1\)](#), and [135.427\(b\)\(1\)](#) to specify that your manual must include the method of performing routine and non-routine maintenance (other than required inspections) and alterations. In both sections, the regulatory intent necessitates that you provide detailed instructions, (otherwise commonly referred to as step-by-step instructions) for performing the indicated inspection task.

**7.1.1** With regard to the method of performing required inspections, the instructions you develop must specify the means, depicted as a technique, manner, or process used to perform the inspection. These can be visual, functional, and/or operational inspections; and may include such things as tests, checks, measurements, weighing, listening, feeling, tapping, and probing. The method must include any applicable inspection aids or equipment, such as a flashlight, mirror, magnifying glass, borescope, video equipment, rigging gauges, and other similar measurement equipment. Keep in mind that these listed methods only depict the means by which a required inspection is to be performed. As

noted above, each required inspection (function) must be individually described with the specific means to be utilized in the instructions for performing that inspection. In other words, if your required inspection procedures addresses the means alone, it would fall short of adequately prescribing the method of performing the required inspection. Each inspection must be separately and specifically described with detailed instructions for performing the inspection using the step-by-step (or some other similarly descriptive) method you established and included in your manual.

**7.1.2** As a CAMP operator, you should avoid developing required inspection procedures that are presented in your manual as a listing of generalized methods. Often such procedures depict the methods together with a corresponding table or chart containing the list of designated RIIs. Such tables attempt to correlate a required inspection with a method to be used for that required inspection. However, a list of generalized inspection methods meant to be used as a “pick-list” from which one or more listed methods are selected and referenced in a corresponding RII list, does not provide the objective and specific step-by-step detailed instructions necessary to conduct each unique required inspection. CAMP operators are cautioned against using any generalized required inspection procedures or instructions exhibiting the following conditions:

1. The RII list is a generalized listing of “high-level” tasks that does not identify a specific function, part, or area that is intended to be the focus of the required inspection.
2. The procedures include a table of methods as a generalized listing of typical conditions that would be used when performing an inspection. The instructions do not reflect the unique method or step-by-step procedure for performing a specific inspection on a distinct and specific function within the designated RII.
3. The information does not provide or include the standards or limits for each required inspection, by which the RII inspector makes a determination of acceptance or rejection.
4. The procedures and instructions are subjective and do not ensure that each required inspection will be performed in a consistent and repeatable manner.

## **7.2 Examples of Designated RII Lists and Inspection Methods.**

**7.2.1** The following tables give an example of a designated RII list (see Table [1](#), Designated Required Inspection Items), and a corresponding list of generalized methods (see Table [2](#), Method/Requirement Designations), that are intended to depict how to perform the required inspection. These two tables represent unacceptable required inspection processes because they do not meet FAA guidance or regulatory requirements. The listed RII (Table 1) is incomplete, as it does not identify the specific function within the designated task that is to be the target of the inspection. In addition, it does not contain or reference specific instructions or procedures for performing the inspection. Further, the table that stipulates the methods (Table 2) is no more than a general depiction of how to perform any inspection. The information lacks the necessary step-by-step procedures and does not include the standards and limits for determining acceptance or rejection of each inspection.

**Table 1. Designated Required Inspection Items**

<b>Required Inspection Items</b>	<b>Inspection Method (See Table 2)</b>
a. Installation/replacement, rigging/adjustment or major repair of the following flight control components and/or flight control systems.	
i. Primary control surfaces (ailerons, elevators, rudder, and their actuators).	1, 2, 3, 4
ii. Tabs (control, balance, trim, actuators, and dampers).	1, 2, 3, 4
iii. Horizontal stabilizer and actuator.	1, 2, 3, 4
iv. Flaps and actuators.	1, 2, 3, 4
v. Spoilers and actuators.	1, 2, 3, 4
vi. Hydraulic/electric actuating units or assemblies of the above systems.	1, 2, 3, 4
vii. Related components, (cables, pulleys, linkages, hinges) of the above systems.	1, 2, 3, 4
b. The installation/replacement of any propulsion engine or Auxiliary Power Unit.	1, 2, 3, 4
c. The installation/replacement or rigging/adjustment of propulsion engine fuel control units.	3, 4
d. Installation/replacement, rigging/adjustment or major repair of the following landing gear components:	
i. Landing gear extension system (normal and emergency).	1, 2, 3, 4
ii. Main landing gear assembly (strut, braces, and links).	1, 2, 3, 4
iii. Nose landing gear assembly (strut, braces, and links).	1, 2, 3, 4

**Table 2. Method/Requirement Designations**

<b>Number Designator</b>	<b>Inspection Methods/Requirements</b>
<b>1</b>	General Visual Inspection: Perform a general visual inspection. Check for proper installation, security, safety, standard wiring practices (when applicable), and workmanship.
<b>2</b>	Materials: Check for proper materials: fasteners conformance to specifications per structural repair, maintenance, or other relevant manual; or applicable Engineering Order (EO) instructions.
<b>3</b>	Rigging and Torque Verification: Verify proper rigging and/or torque was accomplished per maintenance manual tolerance. Validate per installation and rigging section of maintenance manual. Inspector verifies that proper torque of the item was applied and within specified standards and limits.
<b>4</b>	Operational, Functional, Leak Test, and Nondestructive Testing (NDT): Verify or observe proper operational, functional, leak test, and NDT test was performed and within maintenance manual tolerances, as applicable.

**7.2.2** The following tables Table 3, Example of Depicting a Designated RII Using a Task Card, and Table 4, Example of a Method to Perform the Required Inspection provide an

example of an acceptable way to depict a designated RII. Each designated item has an appropriate level of detail for performing the inspection. In this example, Table 3 shows a task card is used. The task card number correlates with the associated required inspection task. The task card (Table 4) provides the method to perform the inspection and the related standards and limits.

**Table 3. Example of Depicting a Designated RII Using a Task Card**

<b>Required Inspection Items ATA 27</b>	<b>RII Task Card Number</b>
a. The major repair, major alteration, installation/replacement, or rigging/adjustment of the primary flight control, components and/or flight control systems:	
i. Primary flight control (ailerons).	FC27-001-220
ii. Primary flight control (aileron cables).	FC27-001-240
iii. Primary flight control (aileron actuators).	FC27-001-260
iv. Primary flight control (elevator).	FC27-001-420
v. Primary flight control (elevator cables).	FC27-001-440
vi. Primary flight control (elevator actuators).	FC27-001-460

**Table 4. Example of a Method to Perform the Required Inspection**

<b>RII TASK CARD FC27-001-220</b>							
<b>Task Card:</b> TC# FC27-001-220				<b>W/O:</b>		<b>Date:</b>	<b>Aircraft:</b>
<b>Routine</b> (circle one)	<b>Yes</b>	<b>No</b>	<b>Check #</b>	<b>N/A</b>	<b>Non-Routine #</b>	<b>S/N:</b>	<b>A/C Pos:</b>
<b>Description:</b> REQUIRED INSPECTION: AILERON ATTACHMENT BOLT (INNER HINGES)							
<b>Area:</b> AILERON		<b>LH / R/H:</b> circle one			<b>Phase:</b>		
<b>Skills:</b> TECH, QC/INSP, RII							
<b>Zones:</b> 540, 640							
<b>Parts:</b> (1) LPS3 , (1) PS870							
<b>Technical Data Reference:</b> AMM 27-001-040, page 27-001-040-8 through 27-001-040-10							
<b>ITEM</b>	<b>INSTRUCTIONS</b>					<b>MECH</b>	<b>RII</b>
1.	Visually inspect bolt (verify head facing outward toward wing tip).						
2.	Verify bolt torque (40-50 in/lbs).						
3.	Verify aileron travel limits: up $\pm$ 25 degrees, down $\pm$ 35 degrees.						
4.	Apply torque seal/indicator.						
<b>Note:</b> If applicable, capture all “RII buy-back requirements” on a non-routine.							

## 8 RII PROCEDURES, STANDARDS, AND LIMITS.

- 8.1 Procedures, Standards, and Limits.** Sections [91.1427\(b\)\(5\)](#), [121.369\(b\)\(5\)](#), and [135.427\(b\)\(5\)](#) require you to include in your manual the procedures, standards, and limits necessary for required inspections and acceptance and rejection of the items required to be inspected. This requirement is also applicable for part 125 operators per § [125.249\(a\)\(3\)\(v\)](#). Section [121.135\(a\)\(1\)](#) further defines the level of detail by stating that the procedures must include instructions and information necessary to allow the personnel concerned to perform their duties and responsibilities with a high degree of safety. You must clearly state the procedures for each RII in your manual so that regardless of which authorized inspection personnel perform the required inspection, it will always be conducted in a repeatable and consistent manner.
- 8.2 Developing Procedures.** You will not find RIIs listed or identified in the Original Equipment Manufacturer’s (OEM) manuals since RIIs do not apply to manufacturers. Instead, you must develop procedures that contain the standards and limits for each required inspection. You should derive the standards and associated limits for each required inspection, along with your procedures and any related figures or drawings from the AMM, and use them in your manual. This is particularly important for performing required inspections on critical elements such as flight control systems. Additionally, you should consider including individual required inspection signoff requirements for post-rigging verification. You must write your required inspection procedures for inspection personnel in a manner that ensures consistency by clearly stating at a minimum, what to look at (items of maintenance and alterations), how to look at it (method/means), what to compare it to (standard), and what is acceptable or not (limits).
- 8.3 Required Inspection Performance.** Your required inspection procedures should establish when and how to perform the required inspection. If performed during a maintenance task or part of a scheduled maintenance check, you should have controls in place to prevent any subsequent maintenance from invalidating the required inspection. It might be necessary to perform the inspection at a specified step in the maintenance function to prevent such things as skin, panels, or doors from covering the inspection item. Similarly, it might be better to perform the required inspection at the end of the function following completion of work. If performed at the completion of the work function, it is vital that the person performing the required inspection receives a detailed hand-down or briefing from the person who performed the work rather than relying on just the maintenance signoff. Sometimes maintenance personnel move, disconnect, or disturb other things to gain access to the intended maintenance or alteration task. Although the required inspection is a focused inspection, the person performing it must be aware of the general condition of the work area. If the inspector is not aware of these things, improper maintenance can go unnoticed. You should include in your manual the communication requirements for both required inspection and maintenance personnel concerning work performed. Required inspection personnel should not assume that maintenance personnel performed proper maintenance until the inspector can verify the proper performance of maintenance. An example from NTSB accident data shows an aircraft accident resulting from a mechanic using only part of a procedure to perform the maintenance task without informing the inspector. Had the mechanic informed the

inspector of exactly what he or she did, the inspector might have realized the problem and prevented the accident.

**8.4 Developing Standards.** The standards you provide in your procedures establish the basis or parameters from which the person performing the required inspection will determine whether to accept or reject the maintenance task they are inspecting. The standards give measuring criteria from the means you use to perform the inspection. For example, if torque is used, the standard may be foot-pounds or inch-pounds. Another example may be indicating pounds per inch to measure pressure, such as in a cylinder or other pressure vessel.

**8.5 Setting Limits.** Depending on the standard, the limits give the exact, or in some cases, the maximum allowable value of the standards being applied. This may be a specific torque, pressure, length, thickness, or degree of tolerance for wear or fit.

## **9 RII DOCUMENTATION.**

**9.1 Instructions for Required Inspection.** Your manual should describe how you indicate on work documents that a required inspection has to be performed. Further, your procedures must describe how you document accomplishment of required inspections on work forms, non-routine task cards, job cards, Engineering Change Authorization/Orders (EA/EO), or by any other method consistent with your maintenance recordkeeping system. Required inspection documentation procedures should provide complete instructions for performing and documenting each required inspection regardless of whether it was performed due to scheduled or unscheduled maintenance.

**9.2 Task or Job Cards.** Your documentation procedures may rely on the use of task cards or job cards to provide the step-by-step instructions for accomplishing maintenance and inspection tasks. You should consider developing a task card for each RII, which will provide documentary evidence that the step-by-step procedures established by you were followed. A job or task card that includes the required inspection requirement is a very useful and effective means of controlling the completion of the required inspection during scheduled maintenance. Procedures and controls also need to account for those instances when an unplanned required inspection is triggered by unscheduled maintenance and/or alterations being performed. In these cases, you should include procedures for documentation of the required inspection in non-routine discrepancy records or in the aircraft maintenance logbook.

## **10 PROCEDURES TO ENSURE THE PERFORMANCE OF ALL REQUIRED INSPECTIONS.**

**10.1 CAMP Manual Required Procedures.** Sections [91.1427\(b\)\(6\)](#), [121.369\(b\)\(6\)](#), and [135.427\(b\)\(6\)](#) require you to have procedures in your manual for ensuring that all required inspections are performed. Part 125 operators must also meet this requirement per § [125.249\(a\)\(3\)\(vii\)](#). This can be effectively accomplished if the maintenance program work documents clearly identify RIIs and depict when, where, and how they are to be performed. You may choose to identify such items on your work documents with

the abbreviation “RII,” an asterisk, or any similar method as long as the instructions clearly explain how required inspections are to be indicated. It is important to note that required inspection procedures that only address how to mark work documents when a required inspection is to be performed, would not be considered adequate unless they include or reference the specific procedures for performing the inspection.

**10.2 Responsible Persons and Process Controls.** Your required inspection procedures should specify who is responsible for completing each step of the required inspection process. You should also incorporate controls in your required inspection process to ensure required inspections are identified, documented, and completed prior to releasing the aircraft to service, whether or not you, or other persons authorized by you, performed the maintenance and required inspection. Your procedures should state who is responsible for identifying and documenting a required inspection during both scheduled and unscheduled maintenance. Methods for identifying a required inspection for a maintenance task can vary, but should require, at a minimum:

1. Early identification and documentation of the required inspection requirement, and
2. A final review of the paperwork at the completion of work and prior to releasing the aircraft to service.

**10.3 Documenting the Completion of Required Inspections.** A prepared job or task work card for each required inspection is one method of providing a very useful and efficient means of controlling the completion of the required inspection during scheduled and unscheduled maintenance. If you do not use prepared task cards, you should prescribe procedures for documentation of the required inspection in non-routine discrepancy records or in the aircraft maintenance logbook.

**11 PERSONS WHO PERFORM ANY ITEM OF WORK CANNOT PERFORM THE REQUIRED INSPECTION.** Sections [91.1429\(c\)](#), [121.369\(b\)\(7\)](#), and [135.427\(b\)\(7\)](#) require you to include in your manual the instructions to prevent any person who performs any item of work from performing any required inspection of that work. Part 125 operators must also meet this requirement per § [125.249\(a\)\(3\)\(vi\)](#). This includes any person who provides on-the-job training (OJT) to any person who performs an item of work. A primary concept of the required inspection function is that the person performing the item of work may not perform the required inspection on that item of work. The regulations recognize the significance of the independent nature of the required inspection. As previously stated, it is important that you identify required inspection requirements as early as possible during the maintenance task so that everyone is aware of the requirement, and supervision or management can take steps to assign an inspector independent of the maintenance task. Regulatory compliance problems are most likely to arise during periods of unscheduled maintenance performed away from your company’s maintenance facility due to limited resources. Therefore, it is important that you address these different situations in your manual and specify your method of control.

## 12 COUNTERMANDING.

**12.1 Countermanding an Inspector’s Decision.** Sections [91.1427\(b\)\(8\)](#), [121.369\(b\)\(8\)](#), and [135.427\(b\)\(8\)](#) require you to include instructions and procedures in your manual to prevent the reversal of any decision of an inspector regarding any required inspection by persons other than supervisory personnel of the inspection unit. A person at the level of administrative control that has overall responsibility for the management of both the required inspection functions and the other maintenance, preventive maintenance, and alteration functions may also countermand an inspector’s decision. You must establish and identify the Responsible Person at the level of administrative control. The intent of the regulation is to ensure that only certain responsible and accountable persons countermand any inspector’s decision regarding a required inspection, if necessary. You should include in your manual the positions (titles) you authorize within your organization to countermand an inspector’s decision. Additionally, your manual should include procedures for documenting the countermand, including signatures and the basis or reason used for the countermand.

**12.2 Potential Issues With Countermanding.** Although regulations recognize countermand elements in the required inspection process, its use could indicate a serious problem or deficiency in your organization. For example, it could be an indication of such things as a poor safety culture, inadequate scheduling of maintenance, inadequate training or experience of inspection personnel, or deficient required inspection procedures. To ensure its proper use, you should include the countermand event in your CASS.

## 13 WORK INTERRUPTIONS.

**13.1 Procedures for Work Interruptions.** Sections [91.1427\(b\)\(9\)](#), [121.369\(b\)\(9\)](#), and [135.427\(b\)\(9\)](#) require you to include procedures in your manual for ensuring the completion of required inspections interrupted because of shift changes or similar work interruptions before the release of the aircraft to service. This same requirement applies to part 125 operators per § [125.249\(a\)\(3\)\(vii\)](#). Whether planned or unplanned, interruptions to required inspections pose a high risk to the safe operation of the aircraft. To mitigate the risk, you should consider providing required inspection personnel with initial and recurrent maintenance resource management training that includes human factor training.

**13.2 Controls to Ensure Completion of Required Inspections.** An effective control for ensuring the completion of required inspections is the use of work forms designed for the recording of any interruptions during the required inspection. This form should be part of your work package for the aircraft, and the persons performing work should review the form prior to releasing the aircraft to service. Another effective control for interruptions is the use of hand-downs, both verbal and written. Whatever method used, you should have a documented process in your manual, and include the necessary provisions for other persons performing required inspections for you.

**14 INSPECTION OF WORK PERFORMED UNDER PREVIOUS REQUIRED INSPECTION FINDINGS (BUY-BACK PROCEDURES).** Sections [91.1427\(b\)\(4\)](#), [121.369\(b\)\(4\)](#), [125.249\(a\)\(3\)\(iv\)](#), and [135.427\(b\)\(4\)](#), for part 125 operators, require you to include procedures in your manual for the inspection of work performed under previous required inspection findings, referred to as “buy-back” procedures.

**14.1 Documenting Discrepancies.** Your procedures must describe how required inspection personnel document a discrepancy found during the required inspection. Best practices typically involve the use of non-routine records or forms.

**14.2 Documenting Corrective Actions.** Additionally, the procedures should include how maintenance personnel will document the work performed to correct the discrepancy. This also could be accomplished with the use of the same non-routine form or record.

**14.3 Inspecting Corrective Actions (Buy-Back).** Finally, the procedures should include how required inspection personnel will inspect the work performed to correct the discrepancy. To ensure the performance of the inspection as required by §§ 91.1427(b)(6), 121.369(b)(6), and 135.427(b)(6), you should consider adding the procedural requirement to open or note a new required inspection requirement record for each discrepancy found during a required inspection. You should be aware that a buy-back event could be an indicator of a deficiency in the required inspection system. Therefore, buy-back events should be included in your CASS for analysis.

## **15 REQUIRED INSPECTION PERSONNEL.**

**15.1 Authorizing Inspection Personnel.** Sections [91.1429\(a\)](#), [121.371\(a\)](#), [125.249\(a\)\(3\)\(iv\)](#), and [135.429\(a\)](#) for part 125 operators, specify that no person may use any person to perform required inspections unless the person performing the required inspection meets certification and training requirements, and has been qualified and authorized by you to perform the inspection. Your manual should describe the procedures for selecting, training, qualifying and authorizing persons to perform required inspections. There are no regulatory “short-cuts” for authorizing an individual on a “one-time” basis. As such, the procedures for authorizing any person must be applied in each instance.

**Note:** Compliance with §§ 91.1429(a), 121.371(a), and 135.429(a) is directed at the person who uses (assigns or directs) any person to perform required inspections. It applies to both your organization, and other persons performing maintenance and required inspections for you. If you direct, assign, or use any person to perform required inspections, you are responsible for ensuring that the person you use meets regulatory requirements and the procedures in your manual.

**15.2 Procedures to Identify and Authorize Personnel.** You must include procedures in your manual for identifying and authorizing required inspection personnel, either those within your organization or contracted persons that perform required inspections on your behalf (refer to §§ [91.1429\(d\)](#), [121.369\(b\)\(3\)](#), [125.251\(a\)](#), and [135.427\(b\)\(3\)](#)). You must ensure you grant required Inspection Authorization (IA) only to persons trained, qualified, and holding an appropriate airman certificate.

**Note:** With regard to CAMP operators certificated under part 121 or 135, even though an airman certificate is required by regulation to perform your required inspections, the certificated person performing the required inspection is not exercising the privileges of his or her certificate. You must still ensure the person you use is appropriately certificated. However, the certificated person does not get the authority to perform the required inspection from his or her certificate but rather the authority comes from your Air Carrier Certificate.

- 15.3 Ensuring Manual Procedures for Required Inspections Are Followed.** Regardless of whether your personnel perform required inspections, or you authorize contract maintenance providers to perform the required inspections on your behalf, you must describe in your manual in sufficient detail how you will ensure the instructions and procedures in your manual are being followed.
- 16 SELECTING REQUIRED INSPECTION PERSONNEL.** You should establish criteria for the selection of required inspection personnel. Because of the required inspection’s connection to the safe operation of the aircraft, your standards should be high. When you establish your process for identifying and selecting inspector candidates you may want to consider mentoring programs, as they are useful in providing experience to personnel desiring to become inspectors. The process should focus on individual qualities normally associated with quality, such as responsibility, attention to detail, quality work habits, knowledge and experience, ability to focus and stay focused, and no history of significant lapses in safety due to mistakes or errors. You must establish specific training requirements for required inspection personnel, and you should closely monitor the new inspector for a period following the person’s training, qualification, and required IA.
- 17 WRITTEN NOTIFICATION.**
- 17.1 Required Notification.** You must formally notify each individual of his or her required IA as well as the scope of their authorization, (refer to §§ 91.1429(d), [121.371\(d\)](#), and [135.429\(e\)](#)). The regulations require that you maintain, or determine that each person with whom you arrange to perform your required inspections maintain a current listing of trained, qualified, and authorized persons who conduct required inspections. The list must identify the person by name, occupational title, and the inspections he or she is authorized to perform. You must make the list available to the Administrator upon request.
- 17.2 Personnel Responsibilities, Authorities, and Limitations.** In addition, you, or the person with whom you have arranged to perform your required inspections, must give written information to each authorized person, describing the extent of his or her responsibilities, authorities, and inspection limitations. One way to meet this requirement is to issue cards to required inspection personnel that show the person’s authorization and any limitations. The use of cards has additional benefits in the control of inspectors, such as expiration dates and recurrent training requirements. You should identify the persons or job positions responsible for training, authorizing, assigning or using RII inspection personnel in your manual.

## **18 REQUIRED INSPECTION INSPECTOR TRAINING PROGRAM.**

- 18.1 Maintenance Training Program.** Sections [91.1433](#), [121.375](#), and [135.433](#) require you to have a maintenance training program. To meet its intended purpose, your training program should include detailed procedures and instructions for performing required inspections.
- 18.2 Effectiveness of the Required Inspection Training Program.** The effectiveness of your required inspection procedures is dependent upon whether the tasks you designated as required inspections have well-defined and descriptive instructions for performing the inspection function. Likewise, to ensure that each RII inspector is adequately trained in these procedures, your training program curriculum should be specific and objectively cover all required inspection subjects. It should be a combination of formal classroom training, OJT, and recurrent training. It should also include such things as procedural training, inspection techniques, use of inspection aids or equipment, and HF training. Emphasis should be given to providing instructions on the detailed procedures for performing each required inspection, which are contained in your manual. Training that is specific and is structured to cover your procedures for inspecting each required inspection is necessary to ensure that any authorized inspector assigned to perform a required inspection, will be conducting that inspection in a consistent and repeatable manner.
- 19 CONTRACT MAINTENANCE.** In March 2015, the FAA issued a rule change amending parts 121 and 135 by adding §§ [121.368](#) and [135.426](#) respectively, to address contract maintenance. Part 91K regulations were not affected by this amendment. Under the amended regulations, the term “covered work” was introduced. Covered work includes essential maintenance that, if performed incorrectly or if improper materials are used, could result in a failure, malfunction, or defect endangering the safe operation of the aircraft. Covered work also includes regularly scheduled maintenance and RIIs performed on an aircraft (i.e., on-wing). The regulations require you as a certificate holder, to be “directly in charge” of all covered work performed by contract maintenance providers. In addition, contract maintenance providers may not perform covered work unless that work is carried out under the supervision and control of the certificate holder.
- 19.1 Assigning Employees to Oversee Required Inspections.** While the regulations allow you to use another person to perform your required inspections, they do not relieve you of your responsibility for ensuring that other persons perform the required inspections in accordance with your procedures. Based on accident investigation findings on failed required inspections, the FAA highly recommends that you assign one of your own qualified and authorized employees at the inspection site to oversee the performance of required inspections by other persons. In cases where your assigned employee cannot be physically present at the worksite, such as during multiple shifts, there should be a method of contacting the assigned employee if any questions arise on a required inspection. There are additional requirements for certificate holders that contract out the performance of any maintenance. The certificate holder must establish procedures in its manual for authorizing and using contract maintenance providers.

- 19.2 Written Airworthiness Agreement.** The FAA highly recommends that you use a written airworthiness agreement to document clearly and adequately your required inspection requirements with maintenance providers. This could involve locating an adequate number of your qualified and authorized required inspection employees at the aircraft inspection site to monitor the performance of required inspections by others to ensure compliance with written instructions. You should establish alternate procedures for those instances when a need arises for a required inspection at the worksite and a representative from your maintenance organization is not available. Your manual procedures should include a mechanism for the collection of data generated by the performance of required inspections by other persons for input into your CASS to ensure the identification and correction of required inspection program deficiencies.
- 20 AIRWORTHINESS RELEASE FORM OR LOG ENTRY.** Sections [91.1443\(a\)](#), [121.709\(a\)](#), and [135.443\(b\)\(2\)\(ii\)](#) require you, or persons with whom you arrange for the performance of the maintenance, preventive maintenance, and alterations, to prepare, or cause to be prepared, an airworthiness release or appropriate log entry in the aircraft maintenance log. The airworthiness release or log entry must be prepared in accordance with the procedures in your manual. The airworthiness release or log entry must certify that, among other things, any required inspections have been satisfied and the authorized inspector determined the satisfactory completion of the work.
- 21 PART 135 ROTORCRAFT.** Section [135.429\(d\)](#) provides that, in the case of rotorcraft that operate in remote areas or sites, the Administrator may approve procedures for the performance of required inspections by a pilot when no other qualified person is available, provided:
1. The pilot is employed by the part 135 certificate holder;
  2. It can be shown to the satisfaction of the Administrator that each pilot authorized to perform required inspections is properly trained and qualified;
  3. The required inspection is a result of a mechanical interruption and not a part of a CAMP;
  4. Each item is inspected after each flight until the item has been inspected by an appropriately certificated mechanic other than the one who originally performed the item of work; and
  5. Each item of work that is a required inspection and is part of the flight control system shall be flight tested and reinspected before the aircraft is approved for return to service.
- 22 CASS (§§ [91.1431](#), [121.373](#), and [135.431](#)).** You must continuously analyze and survey the performance and effectiveness of your CAMP required inspection procedures and correct any deficiencies, regardless of whether you or another person carries out these inspections. Whenever the Administrator finds that this element of the CAMP does not contain adequate procedures and standards to meet the requirements, you must, after notification by the Administrator, make the necessary changes to meet the requirements. You may petition the Administrator to reconsider the notice to make a change in a

program. Except in the case of an emergency requiring immediate action in the interest of safety, if you file a petition, it will suspend any action on the notice until a decision on your petition is made by the Administrator.