

IEP CHECKLIST

A SAFETY ASSURANCE COMPONENT OF YOUR SMS

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January 2025

Maintenance 2.

Maintenance Personnel (Part 91)

Maintenance Personnel: Effective organizations adequately employ/contract and train the required number of personnel to safely maintain company aircraft and support the full scope of their maintenance obligations at both primary and satellite operating locations. Personnel consistently ensure all maintenance tasks, including required inspections and airworthiness directives are performed according to regulations and standards. Technicians must be fit for duty, properly certificated, and possess the necessary aircraft specific experience to accomplish all assigned maintenance tasks. Non-certified and inexperienced personnel receive proper supervision. Maintenance personnel should receive human factors training, to include fatigue awareness; fatigue management is used to monitor duty time for maintenance personnel.



PART 91



If your answer is not a 3 or better, you must record a finding that requires corrective action.

1. Does the organization employ or contract sufficient maintenance personnel to safely maintain its aircraft? Consider peak workload periods.

(IS-BAO 7.3.1; NBAA Management Guide 1.3.2.22.1; 1.3.2.22.2)

(Personnel) This includes enough personnel to supervise those not certificated or inexperienced for certain tasks. An understaffed situation will inevitably lead to fatigued employees and increase the probability of mistakes. If a vendor handles all of the maintenance, ensure the vendor has enough staffing to fulfill the flight operation's needs.

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2. Examine the background check process for newly hired maintenance employees.

(IS-BAO 7.2.1, 15.2.3.1; NBAA Management Guide 1.3.1)

(Personnel) Background checks are necessary to confirm new hires have the appropriate license(s) and experience required for the position. Also, best practices recommend completion of an Enforcement Information System (EIS) background check on each technician in addition to the typical Human Resources hiring checks.

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3. Maintenance technicians must have the appropriate training for the jobs they are performing. How well does the operation verify, accomplish, and document this training?

(IS-BAO 8.1.1, 8.1.7, 8.5, 15.2.3.1[b]; NBAA Management Guide 1.3.2.22.2, 3.3)

(Personnel) The importance of task specific training cannot be overstated. Verify required licenses are possessed, and personnel are not assigned to tasks they are not qualified to perform. Technicians should also have specific training for each aircraft model, for applicable differences. An on-the-job (OJT) training program should be described in the training section of the company manual indicating specific elements requiring introductory and proficiency OJT.

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4. Evaluate the experience level of the personnel performing maintenance on company aircraft.

(FAR 65.77; NBAA Management Guide 1.3.2.22.2, 3.4; IS-BAO 7.2, 8.1.7.1)

(Personnel) The tasks technicians perform are critical. Is the flight operation completely populated by newly rated technicians, or are experienced, personnel employed? The right mix is significant. Are long tenured maintenance personnel kept current on new technologies? Survey the maintenance activity to identify any organizational weakness.

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5. Examine the maintenance employee turnover rate. A high turnover rate would be indicated with a score of 1, and extremely low would be a 5.

(PRISM Recommended Best Practice)

(Personnel) High employee turnover can be a predictor of poor culture in the maintenance department. If a high turnover rate exists, it should be investigated. Successful companies are built on sound principles, and tend to retain their employees for a reasonable amount of time.

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6. Do maintenance supervisor(s) consider human factors in scheduling and work planning for employees? Do technicians indicate an appropriate awareness of human factors influences?

(IS-BAO 8.2.2, 8.2.3, 12.1; NBAA Management Guide 1.3.2.22.2, 3.11)

(Personnel) Evidence of human factors considerations should be detectable in policies and work practices. Comprehensive training programs result in employee awareness and create proficiency in topics such as stress awareness and fatigue countermeasures; this awareness will help combat compromises in safety. Company policies on this subject should be clearly developed, defined and publicized. Employees must feel these policies and practices are ingrained into the operation, and not just “lip service” to comply with an audit standard.

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7. Are duties and responsibilities for all maintenance personnel documented?

(IS-BAO 7.2.1; NBAA Management Guide 1.3.2)

(Personnel) Duties and responsibilities for all maintenance personnel should be specified in a company-controlled document. Reporting lines for non-management personnel also need to be outlined in a company-controlled manual.

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8. Are there sufficient maintenance resources to conduct any required inspection of work performed? Ensure sufficient oversight is provided and these inspections are completed correctly and documented properly.

(IS-BAO 7.1.1, 7.3.1, 15.3; NBAA Management Guide 1.3.2.22.2, 3.7)

(Program/Procedures) Issues of fatigue, understaffing, and lack of oversight or experience can lead to critical errors during work inspection procedures. Verifying proper work inspection may require implementing a program that is similar to the Required Inspection Item (RII) programs for 10 or more aircraft (Part 121/135). Quality assurance of performed maintenance tasks must never be compromised.

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- 1 – Unsatisfactory
- 2 – Poor
- 3 – Meets Minimum Standards
- 4 – Excellent
- 5 – Best Practice

If your answer is not a 3 or better, you must record a finding that requires corrective action.

9. Examine the written maintenance agreements used when authorizing non-company persons to perform maintenance on company aircraft.

(IS-BAO 15.1.6; NBAA Management Guide 3.9.5)

(Program/Procedures) Written authorization for work on company aircraft establishes positive control over the work of external technicians. Agreements should clearly describe the duties and tasks to be performed as well as ensure that personnel will not work on company aircraft when fatigued. This can be in the form of a physical written agreement “work scope” or a verbal agreement for a single maintenance task as directed by a company maintenance supervisor. Regardless of the agreement in place there must be a procedure in place to approve each outside maintenance provider and ensure they have the required “documentation” i.e., Drug and Alcohol program, Fatigue Management program, OPS Spec denoting the limitations, tooling and personnel trained for that specific aircraft and task, and facilities to accommodate the maintenance before any work is accomplished on company aircraft. Additionally, if possible, the operator should also provide a representative onsite to oversee the maintenance performed for oversight.

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10. Do maintenance personnel display effective coordination and situational awareness according to the concepts described in Maintenance Resource Management (MRM)?

(FAA AC 120-72A; IS-BAO 8.2.3; NBAA Management Guide 1.3.2.22.2, 3.3, 3.4)

(Program/Procedures) Just like the concepts described and defined in Crew Resource Management (CRM), MRM seeks to utilize the best methods available to improve communication, effectiveness, and safety. Maintenance personnel should display knowledge and skills associated with this concept. A defined training program for this topic should be part of the overall maintenance training program.

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11. Is a policy in place to ensure maintenance personnel possessing maintenance release authority have recent experience in inspection, servicing, or maintenance?

(FAR 65.83; IS-BAO 8.1.7.3, 15.2.3.2)

(Program/Procedures) These personnel must have at least six months experience in inspection, servicing, or maintenance in the previous 24 months, commensurate with the privileges held by their license.

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- 1 – Unsatisfactory
- 2 – Poor
- 3 – Meets Minimum Standards
- 4 – Excellent
- 5 – Best Practice

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12. Is a policy in place describing specific procedures and limitations associated with maintenance personnel working alone?

(IS-BAO 9.1.3, 15.2.3)

(Program/Procedures) There should be an established check-in procedure and appropriate communication contact with maintenance employees who are working alone. Whenever possible, having a lone maintenance technician performing aircraft or facility maintenance should be avoided, especially when fatigue is a potential factor. Employees should be educated on applicable local company procedures and the risks associated with performing maintenance while alone.

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13. Evaluate the effectiveness of communication with, and oversight of, maintenance personnel in company satellite locations (if applicable).

(IS-BAO 7.1.2, 15.3)

(Communication) To ensure there is no “disconnect” between operating locations (fixed or temporary), proper oversight should be evident, to include routine site visits by supervisory personnel. Communication between locations should be regular and the methods of communication are formalized, uncomplicated and do not inhibit the exchange of information. Practices employed at various locations must consistently reflect current company policies.

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