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OGDEN AIR LOGISTICS COMPLEX

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OO-ALC CORRECTIVE ACTION REPORTING

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This manual identifies the policies and requirements that define the Ogden Air Logistics Complex (OO-ALC) corrective actions reporting and supporting requirements outlined within Air Force Sustainment Center Manual (AFSCMAN) 21-102, *Depot Maintenance Management, 22 February 2024*; OOALCI 90-302, *Commander's Inspection Program,* 28 March 2023; AS9101 *Requirements for Conducting Audits of Aviation, Space, and Defense Quality Management Systems; and* Aerospace Standard (AS) 9110 (current revision), *Quality Management Systems - Requirements for Aviation Maintenance Organizations*. This manual is applicable to all organic, contract, and depot maintenance inter-service support agreement maintenance workloads and applies to all OO-ALC organizations and personnel. Internal and higher authority directives relevant to this manual are listed in **Attachment 1,** *Glossary of References and Support Information*. Ensure all records created as a result of the process prescribed in this publication are maintained in accordance with (IAW) AFI 33-322, *Records Management and Information Governance Program*, and disposed of IAW Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS). Refer recommended changes and questions about this publication to the office of primary responsibility using the AF Form 847, *Recommendation for Change of Publication*; route AF Forms 847 from the field through the appropriate functional chain of command.

SUMMARY OF CHANGES

This instruction has been revised substantially and must be reviewed in its entirety. Major changes include updated roles, responsibilities, and requirements for corrective action reporting from initiation to closure. The purpose of this document is to assist personnel in meeting corrective action requirements.

1. Purpose.

1.1. For IG deficiencies reference OO-ALCI 90-302

1.2. This manual defines roles, responsibilities, and actions to accomplish a corrective action report (CAR). The objective of a CAR is to respond, investigate, correct, and prevent recurrence of identified nonconformances utilizing root cause analysis.

1.2.1. A nonconformance is a deviation from established standards including technical orders (TO), policy, procedure, AS9110, and requirements defined by a customer.

1.2.2. Corrective actions are taken to address, eliminate, and prevent recurrence of nonconformances utilizing the 8-step practical problem-solving method (PPSM) detailed in this manual.

1.2.3. Corrective actions should be timely and appropriate to the nonconformance.

2. Key Roles/Responsibilities.

2.1. Commander, Deputy Commander, Director, Deputy Director, and Director of Operations are identified as the Champion. The Champion shall:

2.1.1. Promote CAR process and initiate CAR activities. See **table 1**, decision authorities.

2.1.2. Support the assigned corrective action coordinator.

2.1.3. Appoint team lead, team members, and identify subject matter experts (SME).

2.1.4. Provide oversight and approval of required resources, corrective action implementation, and closure of CAR.

Table 1. Decision Authorities.

Scope of CAR	Champion [1]
Complex	OO-ALC Commander OO-ALC Deputy Commander OO-ALC Deputy Director
OO-ALC Staff Office	Office Director Office Deputy
Group	Group CC/Director Group Deputy
Squadron	Squadron Director Director of Operations

2.2. OO-ALC/QAX Corrective Actions Supervisor shall:

2.2.1. Attend Complex quality management review (QMR) and/or Commander's inspection management board (CIMB)/inspection working group (IWG) and brief Complex leadership on action items from previous meeting and the status of CARs.

2.2.2. Provide recommendations regarding trending nonconformances related to product, process, and customer.

2.2.3. Provide initial CAR and Maintenance One (MX1) database training to all corrective action coordinators.

2.3. OO-ALC/QAX Corrective Action Coordinator shall:

2.3.1. Brief assigned Group/Squadron leadership on the status of corrective action reports, countermeasure development, planned implementation, effectiveness of corrective actions, and deficiency trending related to people, process, and resources related to the CAR.

2.3.2. Support understanding of CAR process.

2.3.3. Conduct and coordinate all CAR practical problem-solving method (PPSM) activities.

2.3.4. Identify improvement opportunities based on data collected in the CAR process.

2.3.5. Maintain and update MX1 for all corrective action activities and objective evidence provided by the Champion, team lead, or team members.

2.4. Team lead shall:

2.4.1. Identify required SME/team members with assistance of the Champion.

2.4.2. Support corrective action coordinator in leading activities of the team during the CAR PPSM process and development.

2.4.3. Present corrective action plan (CAP) to the Champion with assistance of corrective action coordinator for review and approval.

2.4.4. Coordinate and manage resources during CAR activities.

2.4.5. Provide supportive documentation/ objective evidence when requested from the CAR Coordinator.

2.4.6. Communicate any issue preventing timely completion of countermeasures or CAR to both Corrective Action Coordinator and Champion.

2.4.7. Provide status updates in writing when requested or at planned intervals.

2.4.8. Confirm all actions are implemented and provide objective evidence for documentation in MX1.

3. Corrective Action Report.

3.1. Initiation: A CAR request is initiated when a nonconformance is identified through:

3.1.1. OO-ALC process audit.

3.1.2. Internal management system audit or inspection.

3.1.3. 2d party audit (customer or interested party).

3.1.4. 3d party audit or inspection (Inspector General or registrar).

3.1.5. Management directed investigation.

4. Severity Category Codes.

4.1. Nonconformance: The severity of the nonconformance (major or minor) is identified by the issuing authority as defined in AS9101

4.1.1. A major nonconformance can be one or more of the following:

4.1.1.1. A nonconformance where the effect is judged detrimental to the integrity of the product or service.

4.1.1.2. The absence or total breakdown of a system to meet an AS9110 standard requirement, a customer requirement, or documented information defined by the organization.

4.1.1.3. Any nonconformance that can result in failure or reduced usability of a product or service and its intended purpose.

4.1.2. A minor nonconformance is a single system failure or lapse in conformance to meet an AS9110 requirement, customer requirement, or documented information defined by the organization.

5. Corrective Action Requirements:

5.1. For IG deficiencies reference OO-ALCI 90-302.

5.2. Steps 1-8 of the PPSM will be completed for all nonconformances determined significant enough for an 8-step PPSM during the Champion assessment of steps 1-2.

5.3. When an identified nonconformance is initiated in MX1 and determined by the Champion that a full 8-step CAR PPSM is required, the CAP steps 1-5 shall be completed within 30 calendar days.

6. Preparation:

6.1. Gather data for immediate correction, containment, and steps 1-2 of the PPSM. Team lead is a required participant and may require additional resources, including SMEs, to analyze data.

6.2. Finding: A detailed description of the nonconformance, including exact verbiage of the finding as captured by the initiator. Documented in MX1 “finding” tab.

6.3. Identified reference: The governing policy or technical data violated (i.e., ISO standard, reference guidance memorandum (GM), TO, or instruction). Documented in MX1 “references” field.

6.3.1. Verify the reference cited is correct and document in MX1 “step 2” tab.

6.4. Performance gap: Breakdown of the nonconformance(s) in relation to the identified reference.

6.4.1. Historical data: Analysis of all data supporting magnitude, error rate, and/or frequency of the nonconformance. Data sources may vary depending on the nature of the CAR.

6.4.1.1. Data may be captured by asking the following question: How is the problem impacting the customer or organization regarding quality, cost, speed, safety, schedule, delivery, or voice of the customer?

6.4.2. Document analysis, performance gaps, and requirements in MX1 "step 2" and "attachments" tabs.

6.5. Problem Statement: Clarify and validate the nonconformance by verifying against the identified reference. Provide a concise description of the nonconformance identified (do not include solutions, countermeasures, or root cause) by focusing the five "W"s below and document in MX1 "step 1" tab.

6.5.1. Who is negatively affected?

6.5.2. What is the current state?

6.5.3. What is happening compared to the standard or customer requirement?

6.5.4. When did the nonconformance occur (time and when in the process)?

6.5.5. Where did the nonconformance take place (physical location and process)?

6.6. Immediate Correction: Action(s) completed at the time or immediately after the audit/inspection. Immediate actions will be included in the validation process, to bring awareness of all nonconformance, and action(s) taken for immediate containment and correction. Document in MX1 "immediate correction" tab.

6.6.1. Upload objective evidence of actions taken in MX1 "attachments" tab.

6.7. Containment: Action(s) taken to control and mitigate the impact of the nonconformance to prevent the situation from becoming worse. Containment may be required multiple times throughout the CAR process. Document containment actions in MX1 "containment" tab and upload objective evidence of actions taken in MX1 "attachments" tab.

6.7.1. To determine if containment is required, ask the following questions:

6.7.1.1. Does the problem affect other processes (upstream, downstream, or side stream [supporting processes])?

6.7.1.2. Does the problem affect other product lines or workloads? Consider freezing or shutting down the maintenance, repair, and overhaul process.

6.7.1.3. Does the problem affect the customer? If so, immediately communicate to the stakeholders (internal/external customers or process owners) the potential impact. Verify the problem has not become worse.

6.7.2. Containment actions may include but not limited to:

6.7.2.1. Quarantine: Contain or isolate the affected product, material, or services.

6.7.2.2. Recall product still within organization or already delivered.

6.8. Analysis: Review of problem statement and historical data in relation to identified nonconformance.

6.9. Initial Champion decision: A decision or action determined by Champion after consideration of information collected during CAR preparation. A decision is required to proceed with further utilization of resources based on information received.

6.9.1. Approved: If data provided to the Champion supports completion of root cause analysis (RCA), proceed to CAR event (Steps 1-6).

6.9.1.1. Document Champion decision (proceed to event) in MX1 "Champion decision vector 1" field and MX1 "notes" tab.

6.9.1.2. Upload objective evidence of Champion decision in MX1 "attachments" tab.

6.9.2. Disapproved: If the Champion determines data captured does not warrant use of additional resources to conduct RCA, they may opt to take no further action.

6.9.2.1. Document Champion decision (no further action) in MX1 "Champion decision vector 1" field and MX1 "notes" tab.

6.9.2.2. Upload objective evidence of Champion decision in MX1 "attachments" tab.

6.9.3. Ensure all objective evidence for immediate correction action(s) and containment (if required), is in MX1 "attachment" tab and close CAR.

6.9.4. Consider risks and opportunities and the effect on potential changes to the Quality Management System (QMS).

7. CAR Event:

7.1. Sessions facilitated with the assistance of a corrective action coordinator to perform RCA, develop a CAP, and establish a goal to measure effectiveness. The CAR event includes:

7.2. A team of individuals who work within the process. The team should include:

7.2.1. Subject matter expert (SME) directly connected to the nonconformance; including individual(s) identified as responsible for generating the nonconformance.

7.2.2. Individuals who work directly inside the process, upstream and downstream (users, suppliers, customers, quality assurance, process engineering, planning, scheduling, etc.)

7.3. Root Cause Analysis: A structured, logical, and documented approach to identify root cause to eliminate recurrence of the nonconformance. RCA tools include but not limited to 5 whys, brainstorming, fishbone diagram, pareto chart, etc. Determine if the problem exists or could potentially occur in other groups in the Complex (QMR, IWG/CIMB). Document analysis and cause in MX1 "step 4" tab.

7.3.1. Human factors should be considered and evaluated for each nonconformance; however, seek to identify the performance gap driving the nonconformance.

7.3.2. An RCA may yield more than one root cause; all will be listed in order of impact.

7.3.3. Determine and select deficiency code that most closely aligns with root cause and document in MX1 "deficiency code" field.

7.4. Countermeasures: Document in MX1 “step 5” tab a description of actions to eliminate the root cause(s) and prevent recurrence of the nonconformance should:

7.4.1. Be prioritized by impact.

7.4.2. Logically address and correlate with root cause(s) identified in step 4.

7.4.3. Be enduring in nature and when implemented will result in positive progression toward the goal established in step 3.

7.5. Implementation Plan: Document in MX1 “step 6” tab a description of actions that will be taken to eliminate the root cause(s) and prevent the recurrence of the nonconformance and will include:

7.5.1. Individual steps required to complete the identified countermeasures.

7.5.2. Resources required to implement the individual steps.

7.5.3. Point of contact responsible for completion of countermeasure.

7.5.4. Estimated completion date for each identified countermeasure.

7.6. Goal: Document goal in MX1 “step 3” tab a quantified target or goal utilizing the specific, measurable, achievable, relevant/realistic, and time-bound (SMART) principle. The goal will:

7.6.1. Clearly address the finding and problem statement.

7.6.2. Include quantifiable data captured in MX1 Step 2 to evaluate effectiveness; should validate the goal has been achieved.

7.6.3. A goal may be developed by asking the following questions:

7.6.3.1. How many assets will be produced during the specified time frame?

7.6.3.2. What is the sample size to be measured?

7.6.3.3. What is a reasonable time to monitor?

7.6.3.4. How will the effectiveness of the corrective action be measured?

7.6.3.5. Who will be responsible for validating?

7.7. Champion Decision The Champion will decide to approve or disapprove the corrective action plan after considering the root cause and cost associated.

7.7.1. Approved: If the Champion concurs with the identified root cause, deficiency cause code, and implementation plan, proceed with the implementation plan outlined in MX1 “step 6” tab.

7.7.1.1. Document Champion decision (proceed with implementation) in MX1 “Champion decision vector 2” field and MX1 “notes” tab.

7.7.1.2. Upload objective evidence of Champion decision in MX1 “attachments” tab.

7.7.2. Disapproved: If the Champion does not concur with root cause, deficiency cause code, and implementation plan, or plan does not warrant use of resources required for CAP implementation, the Champion may assume risk or take limited action to correct the nonconformance.

7.7.2.1. Limited action may include but not limited to immediate correction and containment previously documented.

7.7.2.2. Document Champion decision to (accept risk/limited action or accept risk and close) in MX1 “Champion decision vector 2” field and MX1 “notes” tab.

7.7.2.3. Upload objective evidence of Champion decision in MX1 “attachments” tab

8. Confirm Results:

8.1. The CAR team will:

8.2. Validate all countermeasures have been implemented.

8.3. Determine measure of effectiveness for implemented countermeasures utilizing the same data set as documented in step 2. Corrective actions will be confirmed as successful when the Goal established in step 3 is validated.

8.4. If the goal was not achieved, the team lead with the assistance of corrective action coordinator will:

8.4.1. Present the results to the Champion for review.

8.4.2. Perform loopback actions to PPSM steps 3, 4, 5, 6 determined by the Champion.

8.5. Document results of goal validation in MX1 “step 7” tab.

8.6. Upload objective evidence gathered to complete validation in MX1 “attachments” tab.

9. Standardize Successful Processes:

9.1. Process sustainment is reached by ensuring measures are put into place preventing the recurrence of a nonconformance (i.e., operating instructions, technical data, configuration management, etc.). Document in MX1 “step 8” tab.

9.1.1. Upload objective evidence to support the standardized successful process in MX1 “attachments” tab.

10. CAR Completion/Closure:

10.1. The team lead with the assistance of corrective action coordinator will:

10.1.1. Verify all CAR PPSM steps and attachments are complete and accurate.

10.1.2. Present CAR PPSM and supporting documentation to the Champion for review.

10.1.3. Close CAR in MX1 after Champion approval.

11. 180Day Validation.

11.1. 180 days post closure of CAR, the CAR team will:

11.1.1. Validate all countermeasures are still in place.

11.1.2. Utilize the same data collection process as documented in step 2 to validate there has been no further recurrence.

11.1.3. Document results in MX1 “180-day validation” tab.

11.1.4. Upload objective evidence gathered to complete validation in MX1 “attachments” tab.

11.2. If validation is found ineffective or not sustained, team lead with the assistance of corrective action coordinator will compile 180-day validation information and present to the Champion.

11.2.1. Champion Decision: A decision or action determined by the Champion after considering the 180-day validation results deemed ineffective or not sustained.

11.2.1.1. Additional action taken: Champions should evaluate why the corrective action is ineffective and consider accomplishing a new CAR or utilizing another course of action such as a CPI event. If a new CAR is the course of action, document as a peer in MX1 to the ineffective/not sustained CAR. Utilize updated data collected in Step 2 and accomplish PPSM steps 3-8.

11.2.1.2. No additional action taken: The Champion should consider the consequences of the ineffective corrective action. The CAR coordinator will document the Champions decision in MX1 “notes” tab and upload objective evidence of Champion decision in MX1 “attachments” tab

11.3. Team lead with the assistance of Corrective Action Coordinator will facilitate action decision provided by the Champion.

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Attachment 1

GLOSSARY OF REFERENCES AND SUPPORT INFORMATION

References

AFMAN 33-322, *Management of Records,* 23 March 2020

AS9101, *Requirements for Conducting Audits of Aviation, Space, and Defense Quality Management Systems,* November 2022

Aerospace Standard AS9110, *Quality Management Systems-Requirements for Aviation, Space and Defense Organizations,* November 2016

OO-ALCI 90-302, *Commander's Inspection Program,* 28 March 2023

Technical Order 00-35D-54, *USAF Deficiency Reporting, Investigation, and Resolution*, 15 August 2022

Adopted Forms

AF Form 847, *Recommendation for Change of Publication*

Abbreviations and Acronyms

AFI—Air Force Instruction

AFMAN—Air Force Manual

AFSCMAN—Air Force Sustainment Center Manual

AoP—Art of the Possible

AS—Aerospace Standard

CAP—Corrective Action Plan

CAR—Corrective Action Report

CAT—Category

CIMB—Commander's Inspection Management Board

GM—Guidance Memo

IAW—In Accordance With

ISO—International Organization for Standards

IWG—Inspection Working Group

MX1—Maintenance One

OO-ALC—Ogden Air Logistics Complex

PPSM—Practical Problem-Solving Method

QMR—Quality Management Review

QMS—Quality Management System

RCA—Root Cause Analysis

SMART—Specific, Measurable, Achievable, Relevant/Realistic, and Time-Bound

SME—Subject Matter Expert

Terms

Correction—Action(s) to eliminate a detected nonconformity.

Containment—Action(s) to control and mitigate the impact of a nonconformity and protect the customer's operation (stop the problem from getting worse). This includes correction, immediate corrective action, immediate communication, and verification that the nonconforming situation does not further degrade. Actions to deal with the consequences of the nonconformity.

Corrective Action—Action(s) to eliminate the cause(s) of a nonconformity and prevent recurrence.

Corrective Action Coordinators—The "effort managers" for actions needed to correct the nonconformity. This person "guides" the corrective action plan and evaluates the plan/process ensuring conformance to the PPSM. This person also communicates to the Champion the status of all CARs under their control and scope.

Corrective Action Plan—A plan that addresses the root cause(s) of a detected nonconformity, including a schedule of actions for implementation and measures of effectiveness.

Champion—The person serves in the leadership role of the complex/group/squadron where the nonconformity was identified and required to be corrected. Ensures the corrective action team understands its purpose and objective. This person is the "Champion" and has the authority to commit resources and can knock down obstacles standing in the way of a successful corrective action team, regardless of where the barrier is within the organization.

Human Factors—The study of human behavior (physically and psychologically) in relation to environments, products, or services and the potential effect on safety. Recognition that personnel performing tasks are affected by physical fitness, physiological characteristics, personality, stress, fatigue, distraction, communication, and attitude to ensure a safe interface between the personnel and all other environmental elements such as other personnel, equipment, facilities, organizations, procedures, and data.

Measure of Effectiveness—Actions taken to assess and measure the effectiveness of the corrective action in eliminating the causes of the nonconformity and preventing recurrence.

Nonconformity—Non-fulfillment of a requirement.

Objective Evidence—Data supporting the existence or verity of something. Objective evidence can be obtained through observation, measurement, test, or by other means and generally consists of records, outputs of process, sampling or statements of fact or other information that are relevant to the criteria and verifiable.

Practical Problem-Solving Method—Formerly known as the Air Force 8-step problem solving model. A standardized approach to properly define a problem, its root cause, countermeasures, countermeasure(s) implementation, measure of effectiveness of corrective action results and validation of sustainment.

Root Cause Analysis—A set of analyzing and problem-solving techniques (e.g., cause and effect diagram, 5-why analysis, fishbone diagram "Ishikawa," brainstorming, is/is not, comparison sheet, histograms, scatter diagrams, control charts, pareto analysis, check sheets and tally charts) used to identify the actual root cause(s) or the reason(s) for the problem.