



AF-MM-9400-001

Manufacturing Operations Manual

Space / Aviation / Defense

FIRST EDITION

AF 9400 SUPPORTING DOCUMENT



Document identity and use

FIRST EDITION MANUSCRIPT - Prepared for Aerospace Federation review

Field	Controlled identity
Document	AF-MM-9400-001 - Manufacturing Operations Manual
Parent standard	AF 9400 - Aerospace Manufacturing, Materials & Supply Chain
Edition / language	FIRST EDITION / English master text
Family	Manuals
Primary source anchors	5-8, 12-29, 32-35
Suggested local owner	Manufacturing operations manager
Authority	Publisher approval and effective date are not assigned. Local use requires authorized adoption and completed parameters.

Use with the main standard

This document implements the identified AF 9400 clauses and annexes. Read the complete applicable requirements in the main standard. The source anchors are navigation references; a template does not replace technical judgement, evidence, permission or eligible approval.

AF-ML-9400-001 lists the complete supporting set. AF-CM-9400-001 maps the main clauses and annexes to working documents. AF-TP-9400-001 establishes the common local parameter baseline; add the relevant discipline profiles.

Record control

Identify the object, configuration, record owner and dates. Reference attachments by stable identifier and version. Keep superseded evidence and decisions traceable. Use the approved local retention, access and authentication arrangements. No process recipe, numerical limit, interval or acceptance value is assigned by a blank template.

Implementation model: Translate the stated responsibilities and controls into the actual organization. Informative examples remain explanatory; use approved programme-specific values for operational decisions.

1 Establish the production basis

The production manager owns the actual route and resources; the technical authority owns adequacy of the method and qualified scope; the verification owner accepts evidence; the eligible issuer releases the product. Local adoption shall name these roles and their limits. This manual routes work through the supporting procedures without replacing product-specific instructions.

1.1 Intake and baseline

Use AF-PR-9400-001 and AF-FR-9400-001 to resolve the product definition, configuration, effectivity, criticality and acceptance basis. Confirm that materials, sources, processes and inspection capability can satisfy the request. Identify customer property and any missing permissions. Block dependent commitments when essential conditions remain unresolved.

1.2 Risk and control planning

Use AF-PR-9400-002 and AF-FR-9400-002. Follow each critical characteristic through the operation that creates it and the operations that can degrade it. Identify hidden features, latent process effects and common causes. Assign prevention, verification, criteria, owner and reaction at the actual work step.

2 Demonstrate readiness before routine production

2.1 Complete profiles and qualifications

Complete AF-TP-9400-001 with the full P01-P40 baseline and select the actual technical profiles. Enter approved material states, process windows, inspection rules and authorities. AF-PR-9400-013 and AF-FR-9400-013 establish process qualification; a profile filled with numbers does not itself demonstrate that qualification.

2.2 Resources and competence

Use AF-PR-9400-011/012, AF-RG-9400-004/005 and AF-SC-9400-002/003. Verify configured equipment and tooling capability, current metrology, authorized operators and eligible reviewers. Maintenance, relocation or controller change requires review of the actual restoration needs and affected historical output.

2.3 Pilot and gate evidence

Use AF-PR-9400-003 and AF-FR-9400-003. Demonstrate representative materials, operators, equipment, route, rate, yield and records. Identify special preparation or corrections. Gate approval states the demonstrated scope, mandatory prerequisites and invalidation triggers; planned capacity is not demonstrated readiness.

3 Control setup and execution

3.1 Material and configuration at start

Use AF-WI-9400-003/004 before the operation. Verify material identity, accepted state, remaining life, traveler, programme, tooling and effectivity. A correct part number with wrong material condition is not a valid setup. Record initial conditions and required permissions.

3.2 Actual execution and hidden work

Use AF-PR-9400-014, AF-FR-9400-014 and AF-WI-9400-005/007. Capture actual essential parameters, observations, consumables and hidden-feature checks while they occur. Link native run files to the exact product. Record interruptions, adjustments and failed attempts rather than replacing them with a later successful run.

3.3 Excursion and restart

Use AF-WI-9400-006. Protect people and product through the approved local method, preserve evidence and contain the conservatively affected interval. The technical authority assesses product exposure, qualification validity and restoration needs. A corrected set point does not release prior output or authorize restart by itself.

4 Verify the actual output

4.1 Inspection and statistical evidence

Use AF-PR-9400-015/016 and AF-FR-9400-015/016. Verify method capability, actual coverage, equipment, uncertainty and approved rules. Sampling plans and monitoring models are defined before results. Distinguish process signals, product specification and release status. Missing data do not become measured zeros or PASS.

4.2 First article and production representation

Use AF-PR-9400-018 and AF-FR-9400-018. Account for dimensions, notes, materials, processes, software and hidden features. Confirm that the article represents the intended production route. First-article acceptance does not replace special-process qualification or routine product evidence.

4.3 Rework and repair

Use AF-PR-9400-019/020 and their forms. Preserve the original finding, cumulative history and exact authorized disposition. Rework aims to restore original conformity; repair and concession require their own bounded basis. Reinspection addresses effects of the action as well as the originally failed characteristic.

5 Reconcile and release

5.1 As-built dossier

Use AF-PR-9400-024 and AF-FR-9400-024. Reconcile traveler, genealogy, material, process, inspection, nonconformity and stock records. Every required condition for the claimed scope must be resolved. Confirm that the certificate population matches the evidence population.

5.2 Protection and handover

Use AF-PR-9400-023 and AF-WI-9400-010. Verify packaging, remaining life, temporary devices, labels, custody and required documents. Record the exact released condition and receiving duties. Receipt of a shipment and technical acceptance remain different events.

6 Maintain production validity

6.1 Changes and feedback

Use AF-PR-9400-022/025 for material changes, transfers, returns and causal action. Assess essential variables and the applicability of prior evidence. Control old/new inventory and partially completed work. An unchanged part number does not eliminate the need for a technical review.

6.2 Assurance and recovery

Use AF-PR-9400-027/028 to examine real end-to-end and adverse-case trails. Demonstrate that records and blocked states survive recovery. Management reviews actual escapes, resource constraints and ineffective controls. Improvements shall be verified in the working process, not only in revised documents.

Required evidence: A production trail connects the approved definition, material pedigree, qualified route, actual execution, verification, disposition and release with stable identities and eligible decisions.