BY ORDER OF THE COMMANDER OF ROBINS AIR FORCE BASE

ROBINS AIR FORCE BASE INSTRUCTION 64-110

6 DECEMBER 2013

Contracting

FIRST ARTICLE MANAGEMENT

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This RAFBI implements AFMCI 64-110 and establishes policies, procedures, and responsibilities for the implementation of a standard First Article Management Process that shall be followed at Robins Air Force Base (RAFB). This RAFBI applies to all military, civilian, and contractor personnel assigned or attached to RAFB that participate in the First Article Management process. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using Air Force (AF) Form 847, *Recommendation for Change of Publication;* route AF Forms 847 from the field through the appropriate functional's chain of command. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with Air Force Manual (AFMAN) 33-363, *Management of Record*s, and disposed of in accordance with Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS) located at **https://www.my.af.mil/gcss-af61a/afrims/afrims/.** See **Attachment 1** for a glossary of references and supporting information.

SUMMARY OF CHANGES

This publication has been substantially revised and should be reviewed in its entirety. This document was originally a supplement to the AFMCI 64-110. The intent of this FAM Instruction is to standardize the First Article process at Robins Air Force Base (RAFB). In order to accomplish this, a RAFB Instruction for the First Article Management process was created. This instruction provides step by step instructions on the First Article Management Process. The

First Article Test process flow has also been revised; a First Article Management process flow has been added.

1. POLICY.

1.1. **Authority:** AFMCI 64-110 *First Article Management*

1.2. **Scope.** This operating instruction defines some guidelines for requiring a First Article Test (FAT). This OI documents the roles, responsibilities, process actions, and establishes a standard process flow for the FAT process at RAFB. The Operating Instruction (OI) documents the process flow from initiation of an AMC/AMSC Screening Analysis Worksheet (SAW) process in PRPS through the disposal of the First Article (FA) exhibit. It is intended that this OI provide the means and visibility to effectively manage the First Article Process so that the performance specified in Attachment 6 can be achieved or exceeded.

2. FAT Purpose. A FAT is used to verify that all engineering, design and specification requirements are correctly understood, verified, and recorded. The FAT process is expensive and should not be used to qualify a product (that is, to determine its suitability for a given use or application), nor as a technique to measure production quality. Rather, a first article inspection should only be used to assess a producer's ability to manufacture an item in conformance with the data package.

2.1. **FAT Guidelines.** Since the FAT process is expensive the following are some general guidelines of when to require a first article test.

2.1.1. When the contractor has not previously furnished the product (or similar product) to the Government

2.1.2. The item has incurred changes since the contractor previously furnished the part

2.1.3. The contractor has not manufactured within the previous three years

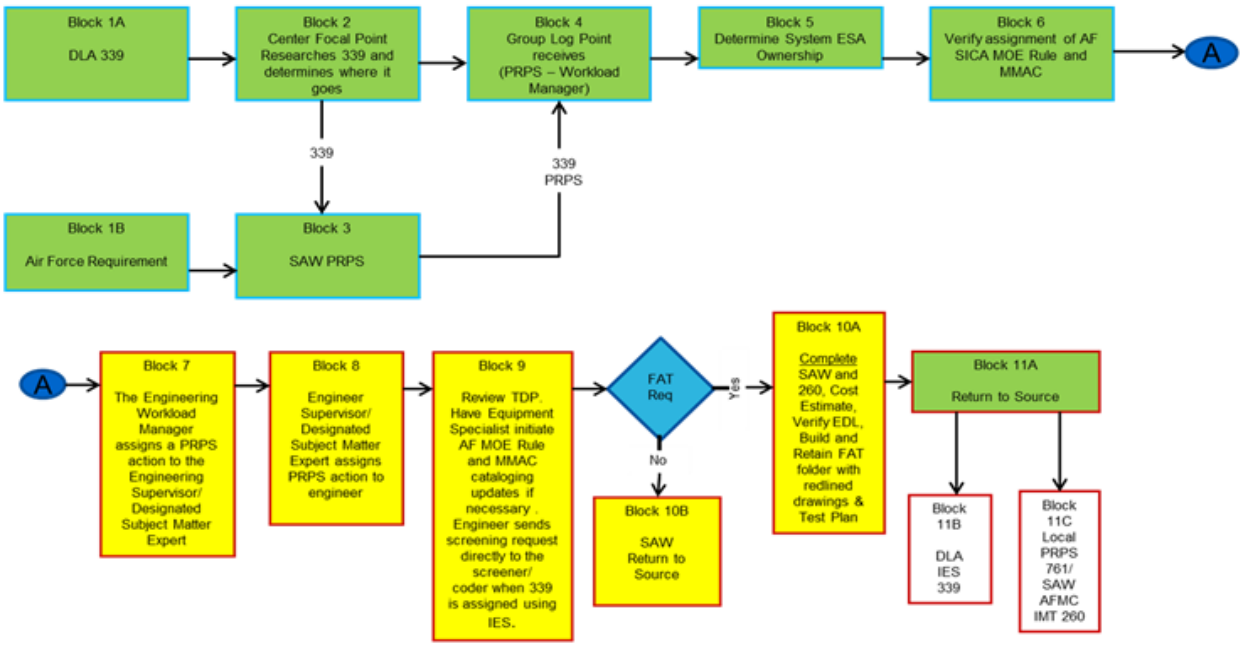
2.1.4. Problems developed during the parts life cycle when the contractor last supplied the part

2.1.5. The product is being purchased with a performance specification

2.1.6. The first article will be used as a manufacturing standard

2.2. **FIRST ARTICLE TEST PROCESS FLOWCHART.** Please refer to the Standard Work Guide, Attachment 2, for further guidance.

Figure 1. First Article Test Process Flowchart (Pre-Solicitation Chart).



PRE-SOLICITATION

Figure 2. First Article Test Process Flowchart – Continued (Post Contract Award).

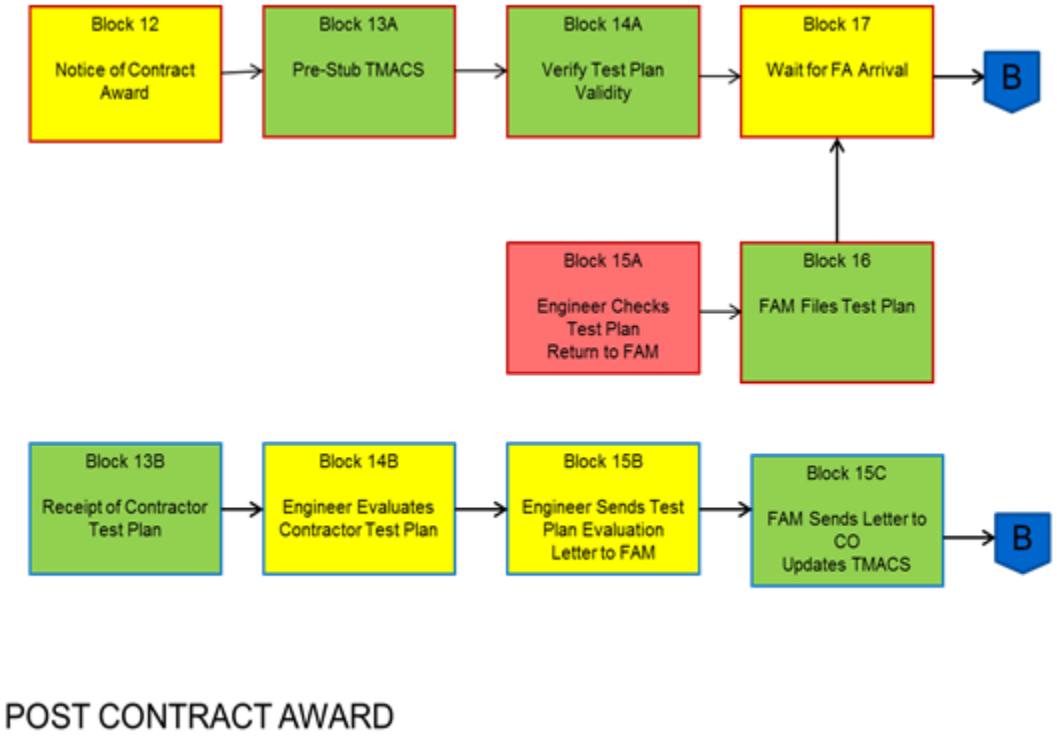
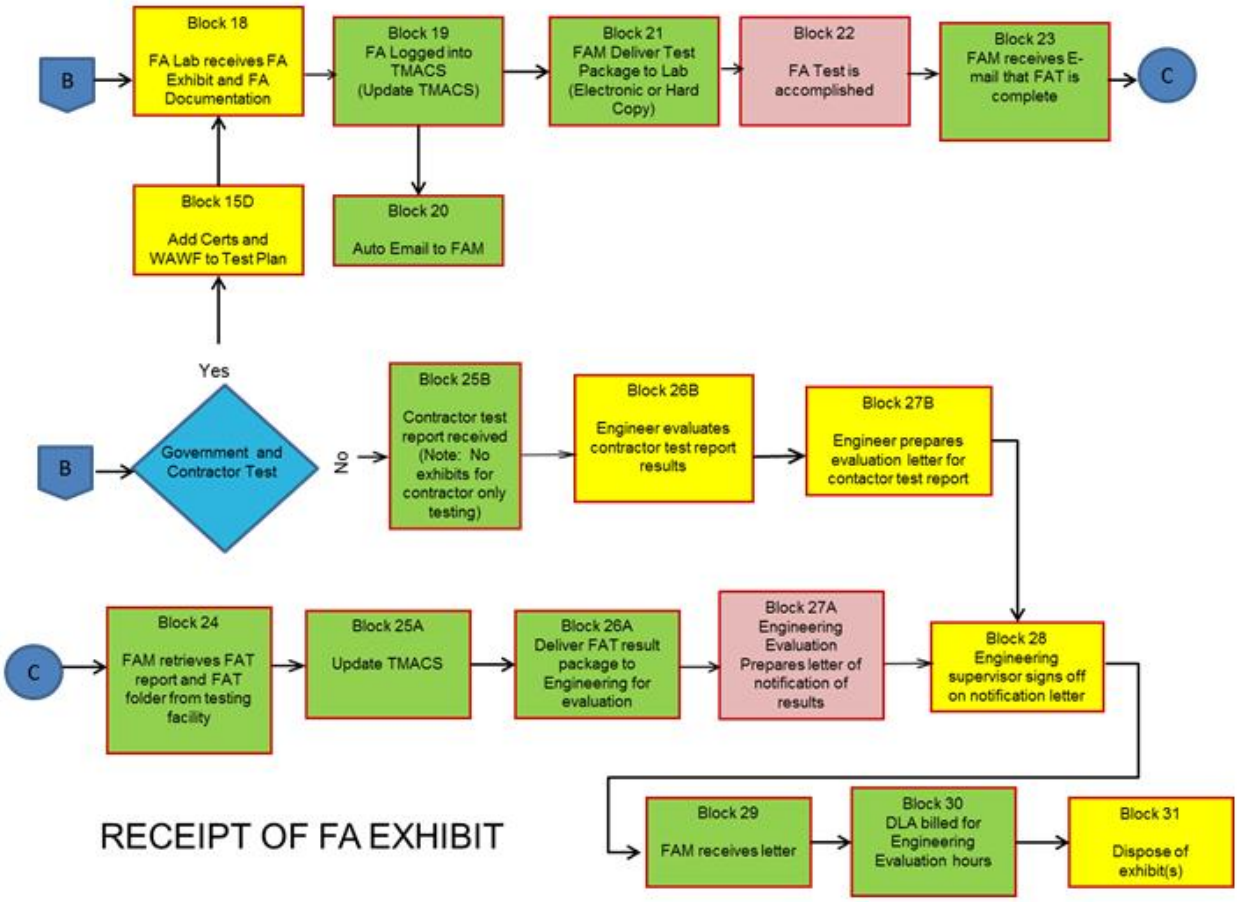


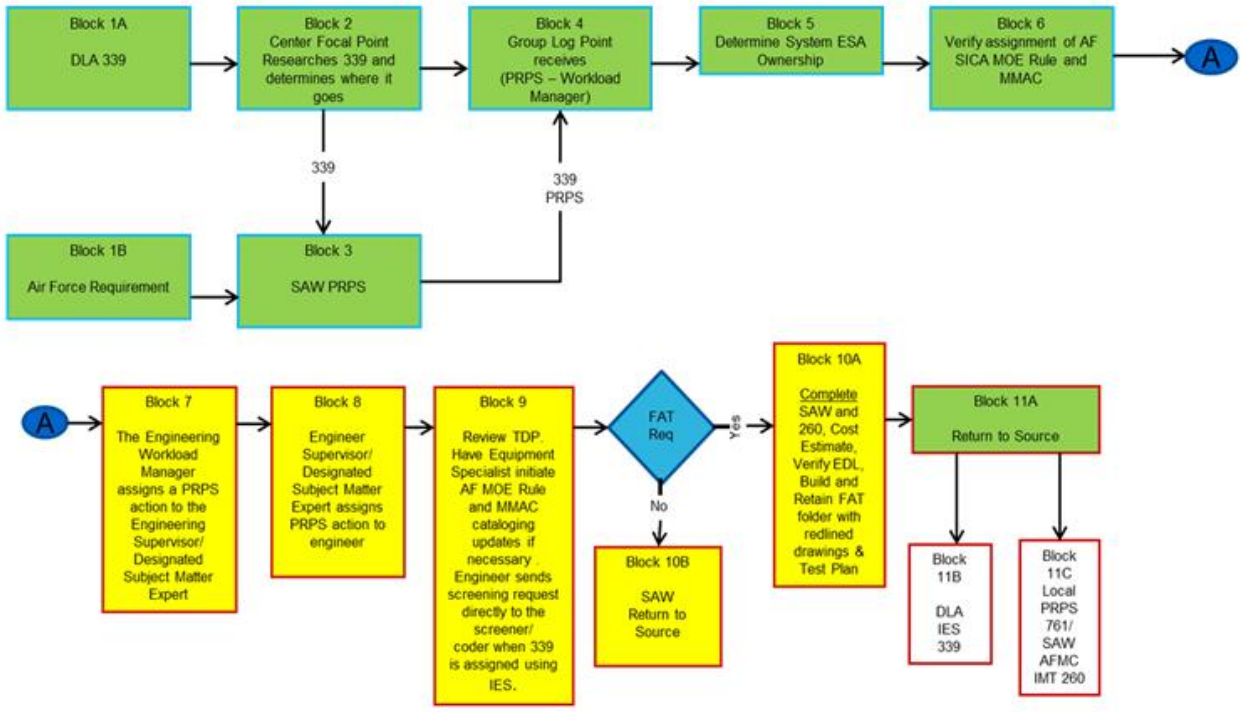
Figure 3. First Article Test Process Flowchart – Continued (Receipt of FA Exhibit).



3. First article management.

3.1. **PRE-SOLICITATION.**

Figure 4. Pre-Solicitation Chart.



PRE-SOLICITATION

3.1.1. The Pre-Solicitation phase begins when a buy requirement is received through PRPS or the DLA 339 system (Block 1A or Block 1B) and ends when a First Article (FA) determination has been made and all accompanying documentation has been returned to the source (Block 11A or 11B). The accompanying documentation may include but not be limited to the following:

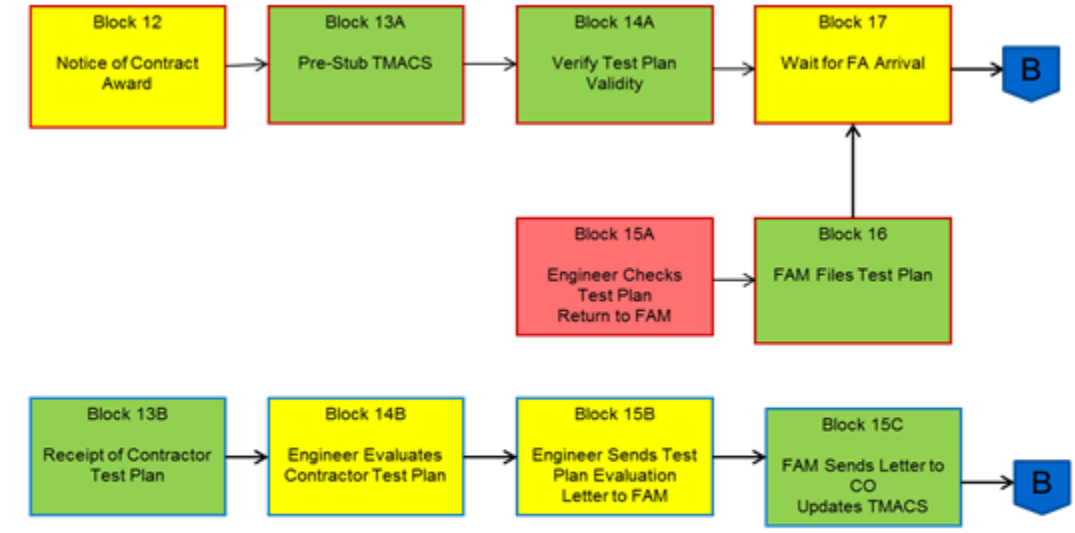
AFMC Form 260 First Article Requirements
DD 1423 Contract Data Requirements List
Cost Estimate Worksheet
Test Plan
Marked Drawings
Engineering Data List (EDL)
AFMC Form 761/Screening Analysis Worksheet (SAW)

3.1.2. The First Article Test (FAT) plan shall be completed during the pre-solicitation pre-award phase. In addition, a test plan repository will be established for test plans. Specifically, the FAT Plan will be created, uploaded and saved into the TMACS repository. As a note, the contractor is responsible for the FA meeting the requirements in the data package and the government has the right to test/ensure the FA is in compliance with the data package, without any restrictions imposed.

3.1.3. Additionally, if there are multiple qualified sources and no business case for full/open competition requiring a first article, then the Acquisition Method Code (AMC)

may be coded as limited competition with no first article. For efficiency, the engineer may review the documentation first to ensure the proper AMC, then forwarded to screening for a recommended code. As a caveat, unless there is an exception anything other than full and open completion has to be justified.

Figure 5. Post Contract Award Chart.

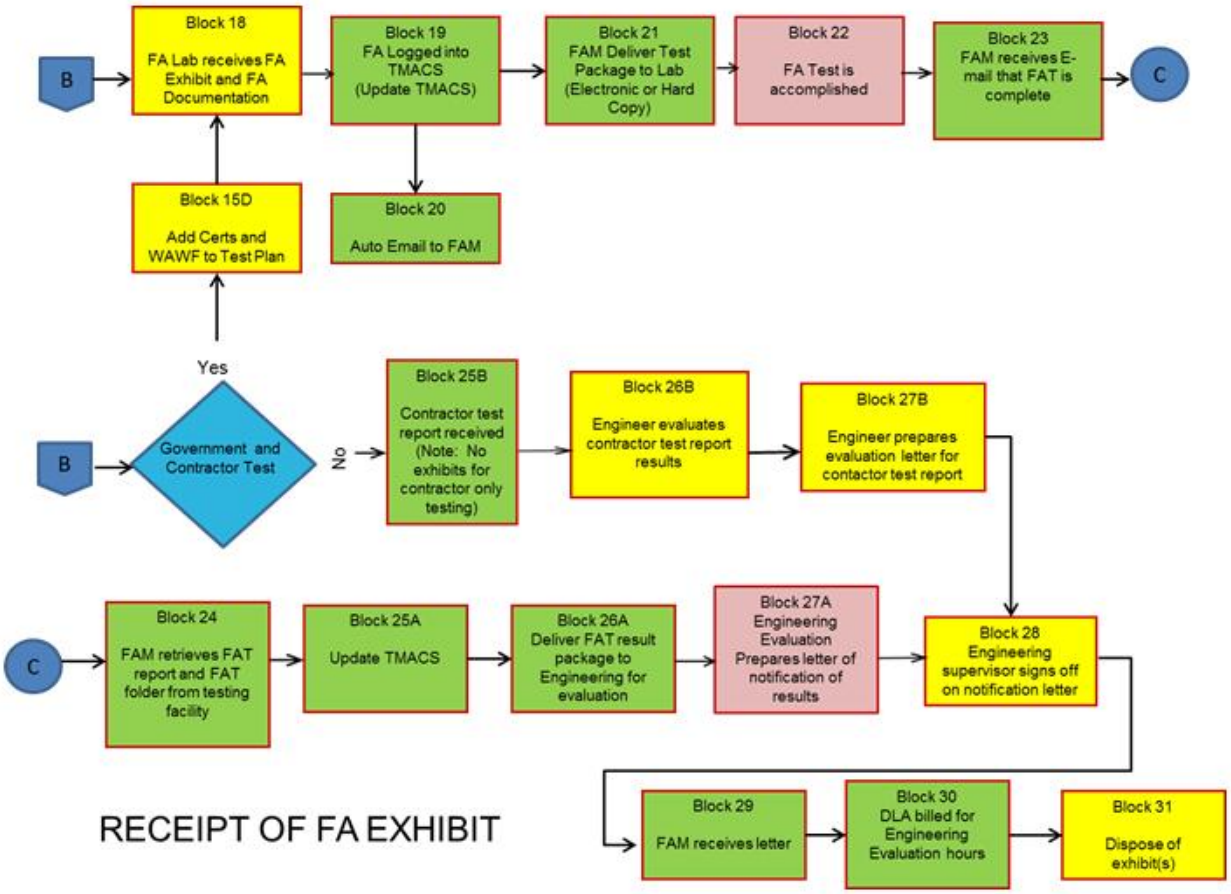


POST CONTRACT AWARD

3.2. **ORGANIC TESTING.** This phase begins with the notification of contract award (Block 12) and ends with the Test Facility waiting for the FA arrival (Block 17).

3.2.1. **CONTRACTOR TESTING.** This phase begins with the receipt of the contractor Test Plan (Block 13B) and ends when the FAM sends a letter to the Contracting Officer and updates TMACS (Block 15C).

Figure 6. Receipt of FA Exhibit Chart.



3.3. ORGANIC or ORGANIC/CONTRACTOR TESTING. This phase begins with the receipt of the FA exhibit and its accompanying documentation (Block 18) and concludes with the disposal of the FA exhibit (Block 31).

3.3.1. **CONTRACTOR TESTING**. This phase begins with the receipt of the FA test report (Block 25B) and concludes with DLA being billed for engineering evaluation hours (Block 30).

4. ROLES AND RESPONSIBILITIES.

4.1. **FIRST ARTICLE MANAGER (FAM).** The FAM is responsible for managing all actions, activities, and processes associated with FA requirements as defined in reference policies, AF Instructions, and regulatory guidance. In addition to these responsibilities, the FAM is the single point of contact for the following FA activities:

4.1.1. Provide assistance in obtaining the necessary support at the government/contractor facility responsible for the first article inspection.

4.1.2. All activities associated with processing documentation that supports procurement actions which require FA validation.

4.1.3. Processing of First Article package.

4.1.4. Disposition of First Article exhibits per instructions specified by contracting officer.

4.2. **ENGINEERING SUPERVISOR.** Engineering Supervisors are technical managers and the central technical authority for assigned systems, sub-systems, end items, and commodities. Engineering Supervisors must review and concur with applied technical requirements, test plans, and evaluations on First Article requirement actions completed by the assigned Responsible System Engineer.

4.3. **RESPONSIBLE SYSTEM ENGINEER (RSE)**. The system engineer shall perform the duties outlined in AFMCI 64-110. In addition to these responsibilities, the system engineer has the following duties:

4.3.1. Ensure that the correct first article inspection requirements are included in the purchase request (PR) according to AFMCI 23-102, *Purchase Request (PR) Operations*.

4.3.2. If the first article inspection will be completed by a government test facility (other than Robins AFB) or by a contractor and Contract Administration Services (CAS) support will be required, then the RSE shall prepare and attach either the Quality Assurance Letter of Instruction (QALI) or Memorandum of Agreement (MOA) to the PR package.

4.3.3. Provide first article inspection requirements documentation (e.g. red lined drawings) to the FAM so that they can provide them to the testing/inspection activity. Develop first article test plans and upload to local test plan repository. Upon advance notification of pending first article delivery to local test lab, review test plans in repository prior to submission to FAM.

4.3.4. Develop estimated costs for first article government inspection and annotate on block 9G of AFMC 260. Estimated costs should include labor costs for government personnel to monitor and conduct tests (locally or at designated test facility), purchase of special tools or test equipment, transportation cost of first article exhibit to test site (excluding contractor expense), government evaluation of contractor test reports (for contractor testing), and any other applicable government costs.

4.4. **CONTRACTING OFFICER (CO).** The CO shall perform the duties outlined in AFMCI 64-110. In addition to these activities, the CO shall perform the following duties:

4.4.1. Provide a copy of all contracts/modifications containing first article test requirements (and all pertinent correspondence) to the RSE and FAM. The FAM and RSE shall receive this information concurrent with the contractor.

4.4.2. The CO will provide the FAM disposition instructions and advise of contractor's intent regarding re-submittal of the first article within 30 days after notification of first article test failure.

4.4.3. The CO shall ensure that removal and disposition instructions for an item failing first article inspection are specified in the contract.

4.5. **TESTING FACILITY.** The test facility is responsible to perform the tests specified on the official test plan and to provide a detailed test report of the results.

4.6. **CODER/SCREENER.** The coder/screener creates the SAW (761) and iterates with the Engineer on the AMC/AMSC coding. If additional screening is to be performed, the Coder/Screener coordinates/completes specified data fields on the SAW.

CHRISTOPHER D. HILL, Colonel, USAF
Commander

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

DODD 5000.1, The Defense Acquisition System

DODI 5000.2, Operation of the Defense Acquisition System

DODD 5200.1R, Acquisition Systems Protection Program

AFI63-131, Modification Program Management

AFI 63-1201, Life Cycle Systems Engineering

AFMCI 64-110, First Article Management

AFMCI 23-102 Purchase Request/Military Interdepartmental Purchase Request

FAR 9.3 First Article Testing and Approval

AS9102 Aerospace First Article Inspection Requirement

Adopted Forms

AF Form 847, Recommendation for Change of Publication

AFMC Form 761, AMC/AMSC Screening Analysis Worksheet

AFMC Form 260, First Article Requirements

DD Form 1423, Contract Data Requirements List

Abbreviations and Acronyms

AMC—Acquisition Method Code

AFB—Air Force Base

AFMC—Air Force Materiel Command

AFMCI—Air Force Materiel Command Instruction

CDRL—Contract Data Requirements List

DLA—Defense Logistics Agency

CEW—Cost Estimate Worksheet

FA—First Article

FAM—First Article Manager

FSC—Federal Supply Class

IAW—In Accordance With

IES—Integrated Engineering Support

MIPR—Military Interdepartmental Purchase Request

NIIN—National Item Identification Number

MMAC—Materiel Management Aggregation Code

MOE—Major Organizational Entity

NHA—Next Higher Assembly

NSN—National Stock Number

OI—Operating Instruction

PGM—Product Group Manager

POC—Point of Contact

PR—Purchase Request

PRPS—Purchasing Request Processing System

RAFBI—Robins Air Force Base Instruction

RTO—Responsible Test Authority

SICA—Secondary Inventory Control Activity

SM—Single Manager

TMACS—Test Management and Contracting System

WAWF—Wide Area Workflow

WR-ALC—Warner Robins Air Logistics Complex

Terms

Conditional Approval— First articles with minor deficiencies may be approved under the condition that the deficiencies are corrected prior to production. Deficiencies must be so minor in nature that they will not affect the form, fit, or function of the item/system if not corrected. Conditional approval is discouraged unless it is in the government's best interest.

First Article— A preproduction model, initial production sample, test sample, first lot, pilot lot, or pilot model. For purposes of this instruction this definition is limited to sub-assemblies, piece parts or items below end item indenture. In addition, some commercial acquisitions procured utilizing the procedures of FAR 12, Commercial Acquisitions will be considered first article items.

First Article Test (FAT)— A complete, independent, and documented physical and functional inspection process to verify that prescribed production methods have produced an acceptable item as specified by engineering drawings, planning, purchase order, engineering specifications, and/or other applicable design documents.

First Article Testing and Approval—Testing and evaluating the first article for conformance with a qualified technical data package or specified contract requirements before or in the initial stage of production.

Responsible Systems Engineering Authority (RSEA)—The system engineer responsible for developing first article test requirements, and evaluating the first article test results.

Design Characteristics—Those dimensional, visual, functional, mechanical, and material features or properties, which describe and constitute the design of the article as specified by Drawing Requirements. These characteristics can be measured, inspected, tested, or verified to determine conformance to the design requirements. Dimensional features include in-process locating features such as target-machined (or forged/cast) dimensions on forgings and castings, and, weld/braze joint preparation necessary for acceptance of finished joint. Material features or properties may include processing variables and sequences, which are specified by the drawing (e.g., heat treat temperature, fluorescent penetrant class, ultrasonic scans, sequence of welding and heat treat). These provide assurance of intended characteristics that could not be otherwise defined.

Attachment 2

STANDARD WORK GUIDE

Block 1A: DLA 339
Center 339 Focal Point receives a request for engineering support in EIS.

Block 1B: Air Force Requirement
The Item Manager creates an Air Force buy requirement in PRPS.

Block 2: Center Focal Point Researches 339s to Determines where it Routes
1. Center Focal Point forwards 339 to Log Point using IES.

2. If screening is not required, then 339 should be forwarded to Log Point.

Block 3: SAW PRPS
The coder/screener initiates the Screening Analysis Worksheet (SAW) and forwards it to the Engineering Workload Manager.

The coder/screener compiles the EDL and stores it in PRPS.

Block 4: Received by Log Point
1. IES Log Point receives 339.

2. PRPS Engineering Workload Manager receives SAW.

Block 5: Determine System Engineering Source Approval (ESA) Ownership
Group Log Point researches NSN to determine ESA responsibility by using the following research tools:

D043
D086
CTOR (Robins AFB, Tinker AFB, and Hill AFB)
JEDMICS
EMALL
AF T.O. Index
WSDC (Weapon System Designator Code)
ASSIST (WSIT)
D200F/API
PDM Gateway

Block 6: Verify Assignment of SICA MOE Rules and MMAC
If required, initiate corrective actions IAW AFMAN 23-110 chapter 2.

Block 7: Assign to Engineering Supervisor
The Engineering Workload Manager assigns 339/PRPS action to the Engineering Supervisor/SME.

Block 8: Assign to Engineer
Engineer Supervisor/SME assigns 339/PRPS action to engineer.

Block 9: Review TDP
Engineer retrieves EDL from PRPS or retrieves drawings via JEDMICS RDS, and reviews for accuracy. Discrepancies identified in EDL should be resolved with coder/screener.

Note: Have Equipment Specialist initiate AF MOE Rule and MMAC cataloging updates if necessary.

Block 10A: FAT
If FAT is required, then engineer completes the following items as required:

AFMC Form 761 SAW
AFMC Form 260 First Article Requirements
DD Form 1423 Contract Data Requirements List (CDRL)
EDL
Cost Estimate Worksheet
FAT Plan
Red Lined Drawings

NOTES:
For an Air Force requirement, the engineer must complete the SAW by selecting **Finish** in PRPS.

The engineer shall complete the test plan during the pre-solicitation/pre-award phase. Completed test plans shall be uploaded to the local test plan repository and/or TMACS by the engineer.

Refer to Attachment 3 for more information on completion of the Cost Estimate Worksheet.

Refer to Attachment 4 for more information on completion of the First Article Test Plan.

Block 10B: Return SAW to Source

NOTE: For an Air Force requirement, the engineer must complete the SAW by selecting **Finish** in PRPS.

Block 11A: Return to Source

1. Block 11B: For a DLA procurement the following documents shall be uploaded into IES:

Completed SAW
EDL
CEW
DD Form 1423 CDRL (if required)
Engineering Notes
AFMC Form 260

2. Block 11B: For a DLA procurement the following documents shall be uploaded into TMACS/local test plan repository: FAT Plan

3. Block 11C: For a local procurement, the following documents shall be uploaded into PRPS:

CEW
Engineering Notes
AFMC Form 761 SAW
AFMC IMT 807 Recommended Quality Assurance Provisions and Special Inspection Requirements (If Applicable)

Block 12: Notice of Contract Award

1. DLA Procurement
The DLA FAT POC receives a DLA/WR-ALC FAT monthly report from DSCR, DSCC, DSCP which identifies the NSN and contract number awarded the previous month. The DLA FAT POC forwards the report to the contracting officer who will determine the appropriate ESA/FAM by using any of the following systems:

D043
EIS
Haystack

After receiving the report, the FAMs will obtain a copy of the contract to determine the due in date for the FA exhibit. The RSE will build the FA test plan in the test plan library in TMACS. As a note, if the FA test plans were kept in a repository such as TMACS, it could greatly reduce process flow days to provide notification to the FAM and RSE of a first article's shipment 30 days in advance so that they could review the test plans in advance of the first articles arrival to verify the test plan is still valid/correct. This action would eliminate (or minimize) first articles waiting on test plans at the organic test facility. Additionally, this action would provide reassurance on the test plan for those first articles that take one to two years to deliver by giving the engineer time to review the test plan if they were not the original developer of it. For destructive testing requirements, the RSE should determine if an item should be unassembled, depainted, etc. This will save time and testing cost.

2. Local Procurement

At the beginning of each month, the WR-ALC FAT POC runs a report which identifies the NSN and contract numbers that have been awarded the previous month. The Complex FAT POC forwards the report to the center Focal Point who will forward the report to the appropriate ESA/FAM.

Block 13A: Pre-Stub TMACS
The FAM will input the following information into TMACS:

Contract Number and Submission Number
Procuring Agency
Contractor and Cage Code
FSC, NIIN and MMAC
Due in Date

Block 13B: Receipt of Contractor Test Plan
In most cases the contractor test plan requires engineering approval before first article testing can occur. When this occurs, the FAM shall log receipt of the contractor test plan into TMACS and forward it to the appropriate engineer for review.

Block 14A: Verify Test Plan Validity
FAM shall ensure that the TDP used for the contract and the TDP used to develop test plan are the same. If inconsistencies are found in the TDP, then the FAM shall ensure that engineering reconciles the TDP inconsistencies.

Block 14B: Engineer Evaluates Contractor Test Plan
The appropriate engineer shall evaluate the test plan.

Block 15A: Engineer Updates Test Plan
The engineer reviews the test plan located in the TMACS repository and updates, if needed. The engineer returns the updated test plan to the appropriate FAM

Block 15B: Engineer Sends Test Plan Evaluation Letter to FAM
Engineering shall provide the FAM with a test plan evaluation letter that will be used to advise the vendor if their test plan is acceptable or not.

Block 15C: FAM Sends Letter to CO and Updates TMACS

Block 15D: FAM Add Certs and WAWF to Test Plan

Block 16: FAM Files Test Plan and Marked Up Drawings

Block 17: Receive 30 day notice of First Article Shipment from Contractor"

Block 18: FAM Delivers Test Package to FAT Lab (Electronic or Hard Copy)
FAM provides FAT documents (folder from Block 16) to the test facility.

Blocks 19, 20, 21: FA Lab Receives FA Exhibit and FA Documentation

1. The Lab POC logs the FA exhibit into TMACS.

2. TMACS sends an auto generated email to the FAM indicating that the FA exhibit has been received.

Blocks 22, 23: FA Test is accomplished

1. Test facility develops test report of result and updates TMACS.
2. TMACS sends an auto generated email to the FAM indicating that the FAT has been completed.

Block 24: Pick Up FA Folder with Test Report

FAM shall retrieve FAT report and FAT folder from testing facility.

Block 25A: Update TMACS

FAM updates TMACS to indicate receipt of FAT report.

Block 25B: Contractor Test Report Received

FAM updates TMACS to indicate receipt of contractor's FAT report.

Blocks 26A, 26B: Deliver FAT Result Package to Engineering for Evaluation

FAM provides the appropriate engineer the test facility's FAT results for evaluation.

Blocks 27A, 27B: Engineering Prepares Evaluation Letter for Notification of Results

Engineering reviews FAT results and prepares letter of notifications of results. Signs and forwards to the supervisor for approval.

Block 28: Engineering Supervisor Signs Off on Notification Letter

The supervisor reviews the notification letter and forwards their concurrence or non-concurrence to the FAM.

Block 29: FAM Receives Letter

FAM receives the notification letter from the supervisor and completes the following tasks:

1. Signs notification letter
2. Scans result letter and updates TMACS
3. Provides FAT result letter to the contracting officer or DLA point of contact

Block 30: DLA Billed for Engineering Evaluation Hours

Test facility bills the governments cost of FAT

Block 31: Dispose of Exhibit(s)
FAM takes appropriate action after receipt of disposition instructions.

Attachment 3

COST ESTIMATE WORKSHEET

A3.1. Procedure Details.

A3.1.1. This cost estimate will be calculated utilizing the Cost Estimating Worksheet. The Cost Estimate Worksheet template is located in the First Article Management folder. The template takes into account the following costs:

A3.1.1.1. Any transportation costs

A3.1.1.2. Any preliminary costs

A3.1.1.3. And testing Costs based on the engineering test plan developed by the RSE

A3.1.2. The actual cost estimate amount will be calculated based on a completed test plan. The cost estimate shall be signed and dated by the RSE.

Attachment 4

FIRST ARTICLE TEAT PLAN

A4.1. If new end item vendors are to be qualified using (FA) testing techniques, an approved test plan will be developed by the responsible systems engineer. Subsequent developmental testing may be required to ensure proper function, integration, and safety once applied to the end item or weapon system prior to fielding.

A4.2. The test plan shall include the test item National Stock Number (NSN), the part number, and the noun.

A4.3. The test plan will also quantify the actual items or area of testing, to include but not limited to the types of:

Non Destruct Testing
Form, Fit, and Function requirements
Dimensional testing
Electrical testing
Materials testing
Chemical testing
Other required tests

A4.4. If more than one item is to be tested, then there will be a similar plan developed for each item.

A4.4.1. As a note, test plans will be placed in the repository to prevent the duplication of building test plans as much as possible, realizing that a new test plan may be required if there have been changes to TDP, item configuration, or test equipment to be used.

Attachment 5

FAT PERFORMANCE STANDARDS

A5.1. The schedule for completing first article (FA) inspection/test assigned to the government facilities at WR-ALC is as follows:

A5.1.1. From notification of FA arrival and with test plan already completed at the inspection Facility - 5 days.

A5.1.2. From Testing facility receipt of Test Package (TP) to date FA test/inspection is completed - 65 days.

A5.1.3. From notification of FA Test/Inspection completion to evaluation/test report completion - 15 days.

A5.1.4. From FA evaluation/test report completion to CO processing and mailing results - 5 days.

A5.1.5. A prioritization feature has been incorporated in TMACS and the number of days for FAT changes based on priority.