

## QUALITY ASSURANCE PROVISIONS

P/N: 74A450852-2001  
NSN: 5325-01-109-6291  
TMS/NOMEN: F/A-18, Ring, Lock-Split, Drag Brace  
CRITICALITY: CSI  
DATE OF DETERMINATION: 7/18/2008

### APPLICABLE CLAUSES:

I. Articles to be furnished hereunder shall be manufactured, tested and inspected in accordance with drawing number Boeing Aircraft Corp. Drawing P/N 74A450852 Rev. E and parts list revision level E or latest revision, and all details and specifications referenced therein.

### II. Quality/Inspection Requirements

- A. MIL-I-45208 applies or ISO 9000 equivalent.
- B. First Article Testing applies: Government Testing
- C. Production Lot Testing applies: Contractor Testing
- D. Mandatory Inspection applies.

### III. Supplemental Requirements

- A. Additionally, paragraphs 3.1-3.5, 5.1-5.2, and 6.1-6.2 of MIL-Q-9858 or ISO 9000 equivalent applies.
- B. The contractor shall include on the detailed process/operation sheets developed, a tracking method that is traceable to the contract, all manufacturing sources performing processes/operations both those performed in-house and those outsourced and a tracking method that is traceable to the contract. These sheets shall not be revised or altered after the successful completion of First Article or Production Lot Testing without approval from the ESA located at the F/A-18 FST, NAVAIRDEPOT North Island via the PCO. Depending upon the proposed change, a new First Article Inspection may be required.
- C. The Inspection Method Sheets (IMS) which list the characteristics of each item produced under the contract shall have traceability to the raw material, casting, or forging. The tracking method used on the IMS shall have traceability to the contract. In addition, the contractor is responsible for providing completed IMS showing the actual dimensions taken for all critical characteristics.

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D. Markings shall be I/A/W MIL-STD-130 latest revision, and method and location shall be I/A/W drawing.

### IV. Mandatory Inspection Requirements

During production, mandatory inspection is required to be accomplished by the contractor as follows:

#### A. Level of Inspection (LOI).

- 1) Critical Characteristics: 100% inspection shall apply
- 2) Major and Minor Characteristics - LOI shall be I/A/W sampling plan acceptable to the QAR

#### B. Critical Characteristics for Boeing Aircraft Corp. Drawing P/N 74A540852 are:

- 1) I.D. Diameter 4.295 +.005/-.000 inches and See Note 21
- 2) O.D. Diameter 4.795 +.000/-.005 and Note 23
- 3) Angle 17 degrees +/- 2 degrees
- 4) Dimension: 4.545 +.000/-.005
- 5) Angles 45 degrees +/- 0 degrees 05 minutes
- 6) Angles 50 degrees +/- 0 degrees 05 minutes
- 7) Surface finish per PS23041, 32 RHR or better except as shown

#### C. Major and Minor Characteristics

1) Shall be defined by the contractor subject to QAR concurrence, unless defined on applicable drawings and associated specifications.

V. Unless expressly provided for elsewhere in this Clause, equipment such as fixtures, jigs, dies, patterns, templates, mylars, special tooling, test equipment, or any other manufacturing aid required for the manufacture and/or testing of the subject item(s) will not be provided by the Government and is the sole responsibility of the contractor. The foregoing applies notwithstanding any reference to such equipment or the furnishing thereof that may be contained in any drawing or referenced specification.

VI. The following manufacturing aid(s) will be furnished for the purpose(s) indicated and shall be returned to the Government after use as intended and not later than the delivery date of the last production item of the contract EQUIPMENT PURPOSE COGNIZANT ACTIVITY.  
(if applicable provide listing of manufacturing aids)

VII. The below listed drawings apply and are being furnished.  
(if applicable, BDE list and furnish drawings)

**FIRST ARTICLE APPROVAL  
(GOVERNMENT TESTING)**

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CRITICALITY: CSI  
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APPLICABLE CLAUSES:

A. The contractor shall deliver unit(s) of lot/item within 180 calendar days from the date of this contract to the activity listed below for the purpose of partial inspection/testing and preparation of test report per the requirements specified in MIL-HDBK-831 prior to forwarding sample(s) with report to the Government designated test facility listed below:

FLEET READINESS CENTER SW  
BLDG. 341  
NAS NORTH ISLAND  
SAN DIEGO CA. 92135-7058  
ATTN: ISAI RAMIREZ CODE 9.3.0  
(619) 545-3828

B. The contractor shall deliver 2 unit(s) of lot/item within 180 calendar days from the date of this contract to the Government Marking of test sample(s) shipping container: "FOR FIRST ARTICLE TESTING. NOT RFI MATERIAL. DO NOT TAKE UP IN STOCK. CONTRACT NUMBER: TBD. For First Article Test, the shipping documentation shall contain this contract number and the lot/item identification. The characteristics that the First Article must meet the testing requirements are specified elsewhere in this contract.

C. Within 120 calendar days after the Government testing facility receives the First Article Sample(s), the QAR's signed Material Inspection and Receiving Report, DD Form 250 and all detailed Process/Operation Sheets, Inspection Method Sheets, First Article Test Report (Signed by the QAR), and all Certificates of Compliance for material (including chemical analysis), Magnetic Particle Inspection, any out-sourced process conducted on the First Article Sample(s) and all technical data used to manufacture the First Article Sample(s), the contracting officer shall notify the contractor, in writing, of the conditional approval, approval or disapproval of the First Article. The notice of conditional approval or approval shall not relieve the contractor from complying with all requirements of the specifications and all other terms and conditions of this contract. A notice of conditional approval shall state any further action required of the contractor. A notice of disapproval shall cite reasons for the disapproval.

D. If the First Article is disapproved, the contractor, upon Government request, shall submit an additional First Article for testing. After each request, the contractor shall make any necessary changes, modification, or repairs to the First Article or select another First Article for testing.

**FIRST ARTICLE APPROVAL  
(GOVERNMENT TESTING)**

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All costs related to these tests are to be borne by the contractor, including any and all costs for additional tests following disapproval. The contractor shall furnish any additional First Article to the Government under the terms and conditions and within the time specified by the Government. The Government shall act on this First Article within the time limit specified in paragraph B above. The Government reserves the right to require an equitable adjustment of the contract price for any extension of the delivery schedule or for any additional costs to the Government related to these tests.

E. If the contractor fails to deliver any First Article on time, or the contracting officer disapproves any First Article, the contractor shall be deemed to have failed to make delivery within the meaning of the default clause of this contract.

F. Unless otherwise provided in the contract, the contractor

- 1) May deliver the approved First Article as a part of the contract quantity, provided it meets all contract requirements for acceptance and was not consumed or destroyed in testing and;
- 2) Shall remove and dispose of any First Article from the Government test facility at the contractor's expense.

G. If the Government does not act within the time specified in paragraph B or C above, the contracting officer shall, upon timely written request from the contractor, equitably adjust under the changes clause of this contract the delivery or performance dates and/or the contract price, and any other contractual term affected by the delay.

H. The contractor is responsible for providing operating and maintenance instructions, spare parts support, and repair of the First Article during any First Article Test.

I. Before First Article approval, the acquisition of materials or components for, or the commencement of production of, the balance of the contract quantity is at the sole risk of the contractor. Before First Article approval, the costs thereof shall not be allocable to this contract for

- 1) progress payments, or
- 2) termination settlements if the contract is terminated for the convenience of the Government.

J. The contractor shall produce both the First Article and the production quantity at the same facility and shall submit a certification to this effect with each First Article and production lot.

K. The contractor shall provide specific written notification to the procuring contracting officer informing him of the shipment of any; article(s) furnished in accordance with this clause. Such notification must be addressed to the attention of the ACO with copies to DSCP and to the testing activity. Failure to provide such notification shall excuse the Government from any delay in performing First Article Testing and informing the contractor of the results thereof.

**FIRST ARTICLE TEST REQUIREMENTS  
(GOVERNMENT TESTING)**

P/N: 74A450852-2001

TMS/NOMEN: F/A-18, Ring, Lock-Split, Drag Brace, NLG

NSN: 5325-01-109-6291-

Criticality: CSI

Criticality determination date: 7/18/2008

I. First Article Inspection/Test Criteria:

The tests to be performed under the First Article approval clause of the contract are:

A. Compliance with Boeing Aircraft Corp. Drawing P/N 74A450852, parts list revision E or latest revision, and all details and specifications referenced therein.

B. Identification: Verification and certification that the parts are serialized and identified per the requirements of Boeing Aircraft Corp. Drawing P/N 74A450852, parts list revision E, or latest revision, and all specifications referenced therein.

C. Packaging and Preservation: Verification that the parts have been packaged and preserved per the requirements of the contract.

D. Visual: Verification and certification of the overall workmanship of the First Article Sample(s).

E. Dimensional: Verification and certification of 100% dimension check of finished First Article Sample(s).

F. Non-Destructive Inspection: Magnetic Particle Inspect per PS21201 Class A

G. Fit/Form/Function: N/A

H. Material Analysis of the First Article Sample(s): Material: 300M per MIL-S-8844 CL 3  
Cond E2

I. Review of documentation as provided under DD 1423 requirements.

In addition to the above tests, the First Article(s) to be delivered hereunder shall also be subjected to those tests that will demonstrate that the articles comply with contract requirements. The contractor shall be responsible for providing necessary parts and repair of the First Article(s) during testing.

**FIRST ARTICLE TESTS REQUIREMENTS  
(GOVERNMENT TESTING)**

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II. Samples to be submitted for testing:

- A. Quantity 2 each.
- B. Estimated Cost: TBD

III. Special Instructions:

- A. Upon successful first article inspection all processes are to be frozen. Any change to the manufacturing process will be cause for a new First Article Inspection.
- B. One sample will be destroyed during testing and will not be returned to the contractor. One sample may be considered as production items under the contract provided the sample could be refurbished to ready for issue (RFI) condition and provided the sample has inspection approval of the cognizant QAR. Sample(s) may be shipped as production items only after all other units required under the contract have been produced and are ready for shipment.
- C. Waiver of the destruction of the First Article test piece may be granted if the contractor provides a certified test coupon that is of the same material and has undergone the same special processes as the First Article test piece.
- D. One sample is to be unpainted and all corrosive areas are to be coated with a light preservative on both samples.

IV. Notification of Shipment of Material for Government Testing

- A. Fourteen (14) days prior to shipment of the First Article Sample(s) the contractor shall notify the designated test facility, in writing of the anticipated shipping date, with an information copy to the PCO, ACO, and QAR. The contractor shall also arrange for preliminary inspection of test sample(s) by the CAO/QAR. The First Article Sample(s) shall be forwarded to the following First Article point of contact at the designated test facility:

FLEET READINESS CENTER SW  
BLDG. 341  
NAS NORTH ISLAND  
SAN DIEGO CA. 92135-7058  
ATTN: ISAI RAMIREZ CODE 9.3.0  
(619) 545-3828

**FIRST ARTICLE TESTS REQUIREMENTS  
(GOVERNMENT TESTING)**

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B. Upon shipment of First Article Sample(s), two (2) copies of the Material Inspection and Receiving Report (DD Form 250), bearing the QAR's signature and indication of preliminary inspection, shall be forwarded to the PCO/ACO Code DSCP, and the designated test facility. In addition, the contractor must supply all detailed process/operation sheets, Inspection Method Sheets, First Article Test Report (Signed by the QAR), and all Certificates of Compliance for material (including chemical analysis), Magnetic Particle Inspection and any out-sourced process conducted on the First Article Sample(s).

These forms and documentation may either be placed in the shipping container with the sample(s) or sent separately, however the envelopes shall be clearly marked, "DO NOT OPEN IN MAILROOM." These forms and documentation shall be sent to the following point of contact:

FLEET READINESS CENTER SW  
BLDG. 341  
NAS NORTH ISLAND  
SAN DIEGO CA. 92135-7058  
ATTN: ISAI RAMIREZ CODE 9.3.0  
(619) 545-3828

Within 120 days after receipt of the sample(s) the test site shall complete testing/evaluation and submit a copy of their test report with conclusions and recommendations to DSCR-VGC.

## **PRODUCTION LOT TESTING REQUIREMENTS (CONTRACTOR TESTING)**

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**DATE OF DETERMINATION:** 7/18/2008

The material produced under contract shall be accepted by the cognizant CAO/QAR contingent upon the successful completion of these requirements.

### **I. Production Lot Test Sampling Requirements**

The tests to be performed under the Production Lot approval clause of the contract are:

A. The cognizant CAO/QAR shall select the applicable number of items at random from the production lot per the ANSI/ASQC Z1.4 Sampling Procedures and Tables for Inspection by Attributes. In addition the QAR shall select the applicable number of items at random from each successive lot or portion thereof per the ANSI/ASQC Z1.4 Sampling Procedures and Tables for Inspection by Attributes.

B. Production Lot Testing to be completed during production after First Article approval.

II. The tests to be performed under the Production Lot Sample testing provisions of the contract are:

A. Compliance with MFG. DWG. Boeing Aircraft Corp. Part Number 74A450852 Rev. E and specifications referenced therein.

B. Dimensional Check

C. Review of documentation as provided under CDRL (DD1423) requirements.

## PRODUCTION LOT TESTING REQUIREMENTS (CONTRACTOR TESTING)

In addition to the above tests, the Production Lot Sample(s) to be delivered hereunder shall also be subjected to those tests, which will demonstrate that the sample(s) comply with contract requirements.

### III. Testing Location, Cost and Estimated Lead-Time

- A. All testing to be accomplished at contractor's facility.

Within fifteen days of completion of Production Lot Testing, the CAO/QAR shall prepare and submit two copies of their test report with conclusions and recommendations to the DSCR-VGC, the Basic Design Engineer, and the ACO.

### IV. Notification of Testing

The contractor shall provide the PCO, ACO and QAR prior to conducting Production Lot Tests so that the Government may witness such testing.

### V. Inspection of Samples

- A. Upon inspection of Production Lot Sample(s), two (2) copies of the Material Inspection and Receiving (DD Form 250), bearing the QAR's signature and indication of preliminary inspection, shall be forwarded to DSCR-VGC with duplicate copies to **F/A-18 Code 43550 FLEET READINESS CENTER SOUTHWEST, NORTH ISLAND** and to the designated test facility. The envelope shall be clearly marked "DO NOT OPEN IN MAILROOM".

- B. Sample(s) may be considered as production items under the contract provided the sample(s) can be refurbished to Ready for Issue condition and provided the sample(s) have inspection approval of the cognizant CAO/QAR. Sample(s) may be shipped as production items only after all other units required under the contract have been produced and are ready for shipment.

**PRODUCTION LOT APPROVAL  
(CONTRACTOR TESTING)**

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Criticality: CSI

Criticality determination date: 7/18/2008

A. The Production Lot Samples shall be selected at random by the cognizant government inspector. The samples shall be identify by contract number, lot number and be clearly marked as follows:

PRODUCTION LOT TEST SAMPLES

NOT RFI MATERIAL

DO NOT TAKE UP IN STOCK

B. Such samples shall be tested in sufficient time prior to the delivery date of the production articles to allow a 10 day period for testing and written notification by the contracting officer of the approval or disapproval of the samples. Within 15 days of the receipt of the samples, the CAO shall notify the contracting officer, DSCR-VGC, of the results of the testing, together with a recommendation for approval or disapproval.

C. In the event the contractor does not receive written notification of approval or disapproval of the samples for a particular production lot within 25 days from their submission for testing, the contract delivery schedule shall be equitably adjusted as necessary.

D. If the contractor fails to deliver any Production Lot Samples for testing within the time or times specified, or if the contracting officer disapproves any Production Lot Samples, the contractor shall be deemed to have failed to make delivery within the meaning of the default clause of this contract, and this contract shall be subject to termination for default.

E. In order for a Production Lot to be acceptable, all samples representative of the lot must pass all the contract requirements. In the event a sample fails to pass such requirements, the lot will be rejected. In such event, the government may, at its option and at no additional cost to the government, (I) terminate all or any portion of this contract for default, (II) require the manufacture of a new Production Lot, or a rework of the rejected Production Lot if the means and procedures proposed by the contractor for rework are acceptable to the Government, or (III) require the submission of additional samples for test. The foregoing procedures shall apply to new or reworked production lots in the same way as they did to the original Production Lot.

F. For each additional sample or each resubmission of a modified sample which the contractor is required to submit for approval hereunder as a result of a failure of a previous sample to conform to the requirements of the specification, the contractor shall pay to the government the costs of reinspection, examination and retesting and the contractor and his sureties (if any) shall be liable for the amount of such costs.

**PRODUCTION LOT APPROVAL  
(CONTRACTOR TESTING)**

G. Nothing contained in the foregoing provisions of this clause, and no action of the Government in accordance herewith, shall in any way prejudice the right of the Government under the clause of this contract entitled Default.