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**AIRTRONICS
OPERATIONAL PROCESSES
PRODUCTION/QUALITY**

AS 9100 REV. C / ISO 9001-2008

APPROVED BY: 
DAVID R. BENNETT
QA MANAGER

REVISION: 6.0
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Index and Revision Status

AOP-42-02-1	Documenting Procedures & Forms	Rev. 3.0
AOP-42-02-2	Library Procedure	Rev. 1.0
AOP-42-02-3	Documenting Work Instructions.	Rev. 1.0
AOP-74-01-1	Supplier Quality System Survey	Rev. 5.0
AOP-75-01-1 ***	Production Process Forms Instructions	Rev. 2.0 ***
AOP-75-01-2 ***	Production Process Forms Instructions – Work Order Entry Process.	Rev. 2.0 ***
AOP-75-04-1	Receiving/Storage of Material	Rev. 2.0
AOP-75-04-2	Receiving Procedure	Rev. 2.0
AOP-75-04-3	Product Return Procedure	Rev. 2.0
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AOP-75-05-1	Control of Shelf Life Materials	Rev. 1.0
AOP-82-00-1 ***	Control of Quality Stamps	Rev. 2.0 ***
AOP-82-04-1	In-Process Inspection Procedure	Rev. 1.0
AOP-82-04-2	Foreign Object Damage Procedure	Rev. 2.0
AOP-82-05-1	Final Inspection Procedure	Rev. 3.0
AOP-82-06-1	First Article Process	Rev. 2.0

*** **This procedure is revision controlled by incorporation into the Airtronics FAA Repair Station Manual (RSM). All changes to this document must be coordinated through the FAA in accordance with the Requirements specified in the RSM.** The preceding statement has been added to the the end of each AOP procedure noted above marked with ***. For procedures marked as such above, all changes must be approved by Assigned FAA Representative before distribution.

RECORDS OF REVISIONS

DATE	SECTION	REVISION
10/22/02	AOP-44-01	Revised Supplier Quality System Survey Form AOP 44-01-1
11/04/02	AOP-12-02-01	Incorporated Documenting Procedures & Forms
12/19/02	AOP-52-04-1	Incorporated In-Process Inspection Procedure
1/9/03	AOP-52-05-1	Incorporated Final Inspection Procedure
10/08/04	AOP-44-01-1	Added AS 9000 to pages 1 & 2
2/18/03	AOP-44-01-2	Incorporated C&L Quality System Survey Form
8/25/03	AOP-45-01-1	Incorporated Production Process Forms Instructions
8/25/03	AOP-45-01-2	Incorporated Production Process Forms Instructions
9/4/03	AOP-12-02-2	Incorporated Library Procedure
10/7/03	AOP-52-00-1	Added reference to Quality Stamp Log
10/7/03	AOP-45-04-3	Incorporated Product Return Procedure
12/10/03	AOP-45-01-1	Revised RETURN TO STOCK Form procedure.
12/10/03	AOP-45-01-2	Added Reference to AOP-45-01-1
02/02/04	AOP-45-01-2	Revised to Specify how entries are automatically generated during the Work Order Entry Phase. (Blocks 10-17, 19-23 & 26-28.)
05/11/04	AOP-45-04-3	Deleted NCR Form 53-01-1 and added Form 2000-C-005.
8/10/04	AOP-44-01-1	Changed AS 9000 to AS 9001. Removed references to ISO-9001-1994.
11/11/04	AOP-52-05-1	Added foreign object check and tool accountability.
8/26/05	AOP-44-01-2	Deleted C & L SUPPLIER QUALITY SURVEY FORM
8/01/08	AOP Cover Page	Changed Address on Logo to reflect new facility location
8/01/08	AOP-44-01-1	Changed Airtronics address to reflect new facility location.
8/08/08	AOP-45-01-1	Major Revision, Released as Revision 1 to conform to revision levels needed for inclusion into FAA Repair Station Manual Appendix.
8/08/08	AOP-45-01-2	Major Revision, Released as Revision 1 to conform to revision levels needed for inclusion into FAA Repair Station Manual Appendix.

8/08/08	AOP-52-00-1	Major Revision, Released as Revision 1 to conform to revision levels needed for inclusion into FAA Repair Station Manual Appendix.
9/17/08	AOP-12-02-1	Added Manufacture Code "G" to documents list in par 6.1.3.
5/19/09	AOP-45-04-4	Added procedure for receiving Raw Material.
7/16/09	AOP-52-06-1	Added First Article Process.
9/30/09	AOP-52-04-2	Added procedure for Hidden Damage Inspection.
12/02/09	ALL AOP's	<i>Revised all AOP's to include AS 9100 and ISO 9001-2008 requirements. Revised document numbers to reflect AS 9100 Rev. C numbering system. Dates on procedures reflect date of actual revision.</i>
03/24/10	AOP-82-04-2	Completely revised procedure to make a full blown FOD procedure. Title changed from Hidden damage inspection to Foreign object prevention guidelines. This addresses Lockheed Martin visit concern.

DOCUMENTING PROCEDURES & FORMS		
Operational Procedure : AOP-42-02-1	Revision: 3.0	Page 1 of 4

1.0 PURPOSE

1.1 The purpose of this procedure is to provide a format for writing of procedures or forms.

2.0 SCOPE

2.1 This procedure is for Quality System documentation.

3.0 REFERENCES

- None

4.0 DEFINITIONS

4.1 FIRST LEVEL DOCUMENTATION

Quality Manual - A document that describes the quality system as compliant to AS 9100 / ISO 9001-2008

4.2 SECOND LEVEL DOCUMENTATION

Procedure – A document which details the purpose and scope of an activity and specifies how it is to be carried out.

Specification - A detailed and exact statement prescribing materials, dimensions, and workmanship for something to be built, installed, or manufactured.

4.3 THIRD LEVEL DOCUMENTATION

Operating Instructions - Documents that detail the order and nature of operations or steps that have to be followed in training.

Work Instructions - Documents that itemize in detail how to carry out specific operations.
(See [AOP-42-02-03](#) for Work Instructions requirements)

Test Methods - Sets of instructions describing in detail the method for carrying out any test or analysis of a repetitive nature.

Calibration Methods - A set of instructions describing how to calibrate measurement equipment.

4.4 FOURTH LEVEL DOCUMENTATION

Form, Records, Work Orders and Test Data Sheets.

5.0 RESPONSIBILITY

Approved by :



QUALITY ASSURANCE MANAGER

Originated by : PG JUAREZ

This Revision Date: 02 December 2009

DOCUMENTING PROCEDURES & FORMS

Operational Procedure : **AOP-42-02-1**

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Page 2 of 4

5.1 It is the responsibility of the Quality Assurance to assure that all new or revised documentation generated at Airtronics, Inc. comply with this procedures format and the requirements of AS 9100 / ISO 9001-2008 (Work Instructions, Test Methods, Calibration Methods, and all Fourth Level Documentation are not required to follow the requirements of Section 6.0 of this procedure.)

6.0 PROCEDURE

6.1 General To All Documentation

6.1.1 Quality Assurance shall be responsible for allocating all documents a unique number, and for the document control system used as described in procedure [QOP-42-02](#) Control of Documents.

6.1.2 Procedures will reference either QM, QOP or AOP designation with corresponding procedures as applicable.

6.1.3 Forms will reference a unique document number: 2000-A-XXX

Where A is: A for Administrative
B for Production
C for Quality
D for Purchasing
E for Engineering
F for Safety
G for Manufacturing

Where X is for sequentially assigned numbers

6.1.4 All documents shall clearly indicate the author and the approval authority on the document by name.

6.1.5 All documents shall be dated and indicate the revision status.

6.1.6 QM, QOP and AOP documentation shall have their circulation controlled by a circulation list maintained in the Quality Department.

6.1.7 Documents shall only be issued or withdrawn by Quality Assurance.

6.2 Writing and Format of Procedures

6.2.1 The need for a procedure can be initiated by anyone who is involved in a particular activity and shall carry out the writing of the procedure.

6.2.2 All process procedures shall be written using the same section headings as follows:

DOCUMENTING PROCEDURES & FORMSOperational Procedure : **AOP-42-02-1**

Revision: 3.0

Page **3** of 4**1.0 PURPOSE**

Under which the author shall define the specific purpose of the procedure in as simple language as possible, answering the question "What and why is it for"?

2.0 SCOPE

Under which the author shall outline the area or personnel covered by the procedure answering the question "Who is involved" using titles rather than names.

3.0 REFERENCES

Under which the author shall list the relevant AS 9100 / ISO 9001-2008 sections and other documents useful in clarifying the procedure and having a dependency on the procedure being generated.

4.0 DEFINITIONS

Under which the author shall define any terms used in the procedure, which might be misunderstood by, or are foreign to, users or auditors.

5.0 RESPONSIBILITY

Under which the author shall define the responsible parties for meeting the procedure requirements, and/or for the implementation of its processes.

6.0 PROCEDURE

Under which the author shall detail the essential actions to be performed to achieve the purpose, answering the questions "Who does what and when, and if appropriate, where and who is to be informed and how".

7.0 RECORDS

Under which the author shall list by title and unique number any associated forms, logs, etc., which are used to record activities in the procedures. These shall provide users and auditors with documented objective evidence of the sound workings of the procedure.

6.2.3 If there is nothing to be written under any of the headings, the word 'None' shall be written under the heading.

6.3 Presentation

DOCUMENTING PROCEDURES & FORMS		
Operational Procedure : AOP-42-02-1	Revision: 3.0	Page 4 of 4

6.3.1 All procedures or forms (as applicable) shall be electronic documented. Each page (as appropriate) shall be typed with headers and footer as shown in this procedure.

6.3.2 All procedures or forms shall be produced in single-sided format.

6.3.3 Paragraphs and subparagraphs shall be numbered using the decimal system.

6.4 **Re-Issues**

6.4.1 The Quality Assurance only, shall make re-issue of any lost or damaged documentation.

6.5.2 The revision number and date on the front page of the header shall identify a re-issues.

6.6 Revisions - All revisions made to approved documentation shall adhere to the requirements of the Quality System Documentation [QOP 42-01](#)

ASSOCIATED DOCUMENTS

- Operational Procedure [QOP 42-01](#) Quality System Documentation
- Operational Procedure [QOP 42-02](#) Control of Documents
- Operational Procedure [AOP-42-02-03](#) Documenting Work Instructions

LIBRARY PROCEDURE

Operational Procedure : **AOP-42-02-2**

Revision: 1.0

Page 1

1.0 PURPOSE

1.1 The purpose of this procedure is to establish the control of documents processed into Airtronics Technical Library.

2.0 SCOPE

2.1 The process defined in this procedure is to initiate document folders for new technical documents and to update as applicable any new revision to existing document folder.

3.0 REFERENCES

3.1 Document Control Procedure [AOP42-02-1](#)

4.0 DEFINITIONS

4.1 Documents Are -Publications, Maintenance Manuals, Processes, Procedures, Work Specifications, Drawings and Standards.

5.0 RESPONSIBILITY

5.1 Document Control

6.0 PROCEDURE

6.1 Documents ordered through Document Control are received through either US Mail or incoming/ receiving by commercial shipper.

6.2 The documents are stamped with the date received and routed to Airtronics Library for processing.

6.2.1 The documents are processed into Document Folders in a timely manner from date received.

6.3 The documents are processed as either revision updates or new documents.

6.3.1 The revision updates are incorporated into the existing Document Folders.

6.3.2 The obsolete documents are removed and disposed per requirement.

Approved by :



QUALITY ASSURANCE MANAGER

Originated by : PG JUAREZ

This Revision Date : 02 December 2009

LIBRARY PROCEDURE		
Operational Procedure : AOP-42-02-2	Revision: 1.0	Page 2

- 6.3.3 Document Control reviews the latest document CD'S supplied against Airtronics Library Data Base for revision changes. Document Control will order any revision changes within 60 days from the date received.
- 6.3.4 The Document Data Base is updated and folders are returned to library storage files.
- 6.4 New documents are processed into folders and identified.
 - 6.4.1 The document folder is assigned a section number and is documented into the Library Data Base with part number, nomenclature and applicable document number.
 - 6.4.2 The new document folder is routed to Production Control for review & issued for product in process.
 - 6.4.3 The document folders are filed in the library storage files.
- 6.5 To requisition technical documents, order forms are prepared and sent to appropriate distribution point.
- 6.6 When a new contract or purchase order is awarded to Airtronics, it is reviewed for the technical documentation requirements.
 - 6.6.1 The applicable technical documents required are researched against the Library Data Base.
 - 6.6.2 If documents are not available at Airtronics, the Contracts person initiates a requisition form and orders from the applicable governing body.
 - 6.6.3 If documents are available in the library, the revisions in file are compared against the contract or purchase order requirements. If documents need to be updated, Document Control will requisition the current revisions.
- 6.7 Audit of Airtronics Library will be conducted as necessary.
- 7.0 RECORDS
 - 7.1 Records will be maintained for three years.

This procedure is revision controlled by incorporation into the Airtronics FAA Repair Station Manual (RSM). All changes to this document must be coordinated through the FAA in accordance with the Requirements specified in the RSM.



DOCUMENTING WORK INSTRUCTIONS

Operational Procedure : **AOP-42-02-3**

Revision: 1.0

Page 1

1.0 PURPOSE

- 1.1 Describe methods for initiation and implementation of work instructions.
- 1.2 To establish authority for issuance and responsibility for control of work instructions.
- 1.3 To prescribe a standard format and sequential numbering system for work instructions.

2.0 SCOPE

- 2.1 This procedure is to be adopted for all Airtronics, Inc. work instructions.

3.0 REFERENCES

- 3.1 QOP 42-01

4.0 DEFINITIONS

- 4.1 None

5.0 RESPONSIBILITY

- 5.1 It is the responsibility of the Quality Manager to assure that all new or revised work instructions generated at Airtronics, Inc. comply with this procedure's format.

6.0 PROCEDURE

- 6.1 All work instructions are initiated by any individual within Airtronics, Inc. and submitted to the Quality Manager for review and coordination prior to issuance.
 - 6.1.1 Work instruction shall not be issued to change or modify the intent of a Quality Assurance Procedure (QAP) or Company Policy.
- 6.2 After final review work instructions shall be approved by the Quality Manager prior to issuance and implementation.
- 6.3 All work instructions shall be prepared on a standard Form 2000-C-030 and shall follow a standard format relative to paragraph headings and divisions.
- 6.4 Work instructions shall be distributed to affected location throughout the company to assure that all individuals with a "need to know" are made aware of the requirements.

Approved by :



QUALITY ASSURANCE MANAGER

Originated by : PG JUAREZ

This Revision Date : 02 December 2009

DOCUMENTING WORK INSTRUCTIONSOperational Procedure : **AOP-42-02-3**

Revision: 1.0

Page 2

- 6.5 Quality Assurance shall be responsible for controlling individual department work instructions to assure that a sequential numbering system is maintained. All revisions to existing work instructions shall receive the same coordination as the original work instruction.
- 6.6 Specific forms and/or manufacturing aids that will be generated as a result of a work instruction shall be sequentially numbered within the same numbering system as the applicable work instruction.
- 6.7 Compliance to this procedure and the individual work instructions shall be a responsibility of, and verified by, the Quality Assurance Department.
- 6.8 **WORK INSTRUCTION IDENTIFICATION**

DEPARTMENT/FUNCTION	IDENTIFICATION	# SEQUENCE STARTS WITH
Quality Assurance	QAWI	1000
Sales/Marketing	SWI	2000
Quality Assurance	QAWI	3000
Contracts Administrative	CWI	2000
Quality Assurance	QAWI	4000
Quality Assurance	QAWI	5000
Quality Assurance	QAWI	6000
Engineering	EWI	7000
Management Information Systems	ISWI	7000
Computer Services	CSWI	7000
Test Equipment	TEWI	8000
Purchasing	PWI	9000
Receiving	RWI	10000
Repair/Overhaul	ROWI	10000
Manufacturing	MWI	10000
Shipping/Delivery	SDWI	10000
Quality Assurance	QAWI	11000
Quality Assurance	QAWI	12000
Quality Assurance	QAWI	13000
Purchasing	PWI	14000
Inventory Control	ICWI	15000
Training	TWI	16000
Maintenance	MTWI	17000

7.0 RECORDS

- 7.1 None.

AIRTRONICS, INC.
1822 S RESEARCH LOOP
TUCSON, ARIZONA 85710

Quality System Vendor Survey

Company Name: _____

Address Street: _____

City: _____ State _____ Zip Code: _____

Telephone: _____ Fax: _____

Product/Service: _____

Number of Employees Total: _____ QA/Inspection _____

Quality system conforms to the following standard(s):

ISO 9001-2000/2008 _____ FAR _____ MIL-Q-9858 _____ MIL-I-45208 _____

AS 9100 _____ TS19649 _____ Other (specify) _____

Organization:

Title

Name

President/General Manager _____

Quality Assurance Manager _____

NOTE: If your organization is certified to ISO 9001-2000/2008 or AS 9100 attach a copy of your certificate and return this form to Airtronics, Inc. You do not need to complete the rest of this form if certifide.

	YES	NO
MANAGEMENT RESPONSIBILITY		
A. Do you have a Company Quality Policy?	_____	_____
B. Do procedures describe the authority of those responsible for managing, performing and verifying work affecting quality?	_____	_____
1. QUALITY SYSTEM		
A. Do you have an approved Quality Manual? If so, specify current revision level and date?	_____	_____
2. CONTRACT REVIEW		
A. Do procedures include contract review activities and are records of this process maintained?	_____	_____
3. DESIGN CONTROL (Manufactures Only)		
A. Do procedures include the control and verification of product design?	_____	_____
4. DOCUMENTATION CONTROL		
A. Do procedures include control of documents and data.	_____	_____
5. PURCHASING		
A. Are suppliers selected based on their ability to meet sub-contract and quality requirements. Are records maintained?	_____	_____
6. PURCHASER SUPPLIED PRODUCT		
A. Are procedures established and maintained for the control of customer supplied material.	_____	_____
7. PRODUCT IDENTIFICATION AND TRACEABILITY		
A. Where appropriate, do procedures cover the identification of the product during all stages of production, delivery and installation?	_____	_____

8. PROCESS CONTROL

- A. Do written instructions exist which contain planned inspection stages in the manufacturing and/or repair sequence? _____

9. INSPECTION AND TESTING

- A. Do procedures ensure that the incoming product is not used or processed until it has been inspected or otherwise verified as conforming? _____

- B. Are records maintained which provide evidence that the product has passed inspection and/or test with defined acceptance criteria? _____

10. INSPECTION, MEASURING AND TEST EQUIPMENT

- A. Is measuring and test equipment used for product conformance, controlled and calibrated? _____

- B. Is all measuring and test equipment identified and calibrated at prescribed intervals or prior to use. Is calibration traceable to nationally recognized standards? _____

- C. Are calibration records for inspection, measuring and test equipment maintained and traceable? _____

11. INSPECTION AND TEST STATUS

- A. Is inspection and test status of products, identified by using (i.e. authorized stamps, tags, labels, work orders, etc.) throughout production including repair and overhaul? _____

12. CONTROL OF NON-CONFORMING PRODUCT

- A. Is non-conforming product identified, segregated and documented? _____

- B. Is repaired and reworked product re-inspected in accordance with documented procedures? _____

13. CORRECTIVE ACTION

- A. Are procedures, which describe the corrective action system, documented? _____

14. HANDLING, STORAGE, PACKAGING AND DELIVERY

- A. Are procedures for handling, storage, packaging and delivery of product documented and maintained. _____

15. QUALITY RECORDS

A. Are Quality Records adequately maintained? _____

16. INTERNAL QUALITY AUDITS

A. Are comprehensive internal quality audits scheduled, preformed documented (including follow-up action) in accordance with documented procedures? _____

17. TRAINING

A. Does a training system exist and are appropriate records maintained? _____

COMMENTS:

COMPLETED BY: _____ SIGNATURE: _____

TITLE: _____ DATE: _____

Please Return completed copy by mail or fax to:

Airtronics, Inc.
1822 S Research Loop
Tucson, Az. 85710
Attention: Quality Assurance
Fax: 520-322-0482

PRODUCTION PROCESS FORMS INSTRUCTION

Operational Procedure : **AOP-75-01-1**

Revision: 2.0

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1.0 PURPOSE

1.1 To establish the procedure used by Airtronics, Inc. Production Department in processing the product using the applicable forms.

2.0 SCOPE

2.1 This procedure shall encompass the work order, parts request and return to stock forms..

3.0 REFERENCES

- Form 2000-B-006 - Work Order Form
- Form 2000-C-007 - Return to Stock Form
- Form GA129-1 - Parts Request Form
- [AOP-75-01-2](#) - Production Work Flow Process Instructions
- QOP-75-01 – Production Control

4.0 PROCEDURE

4.1 FORM 2000-B-006 - WORK ORDER FORM

This form is used as a traceable instrument to document all work performed and parts used on a customer item. Therefore it is of high importance that the integrity of this document be maintained at all times to meet the requirements of our FAA, DOD or commercial customers. All entries made by technicians on this document shall be made in Black ink. Management personnel may use Red or Blue ink to make entries or changes more noticeable.

Items to be filled in by technicians on an ongoing basis, to accurately reflect the status or state a process is currently in.

1. **Date:** Date that a specific PROCESS is COMPLETED.
2. **Int:** Initials of the technician doing the process.
3. **Incoming:** Time spent to do a functional check using the data sheet to find a malfunction, verification of the customer complaint and determine materials needed to return product to a serviceable condition. This process is normally accomplished in conjunction with Step #4. When a specific customer complaint is listed on the work order it is mandatory that the complaint be addressed as a minimum by writing in the Teardown Report block “VCC” for Verified customer complaint or “CNVCC” for stating as a minimum.

Approved by :



QUALITY ASSURANCE MANAGER

Originated by : PG JUAREZ

This Revision Date : 02 December 2009

PRODUCTION PROCESS FORMS INSTRUCTIONOperational Procedure : **AOP-75-01-1**

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4. **Teardown:** Time spent for disassembly of unit to perform internal inspection in order to determine parts needed for repair/overhaul of unit or to complete incoming as required. A written report of teardown findings is required for all units that are opened for inspection and repair/overhaul. Teardown findings are to be entered in the space provided (Item 12).

Note: Steps 3 & 4 comprise a complete Incoming Process. At this point, any additional time required to complete the unit should be requested via the parts request form (when parts are required), a redi-note or on the work order under additional hours. All parts needed to perform repair/overhaul services should be ordered at this time

It is important for a technician to perform a thorough Incoming Process to ensure that all parts required to return a product to a serviceable condition are requested prior to initiating the repair/overhaul process. Failure to order all parts required, results in lengthy repair cycle times and limits management's ability to manage or control delivery dates and customer costs of a repair/overhaul process. It is possible that a span of several days may be required to perform a complete Incoming/Teardown process therefore it is necessary for the technician to record the starting date for this process as the first entry in the Work Accomplished block.

5. **Analysis:** Review of appropriate specifications and technical orders to determine the most effective method of repair/overhaul. This block shall be used to record time spent to determine equipment and tooling required to perform repair/overhaul process and time used to develop (when directed) a preliminary Test Method, Schematics, Drawings and or Test Data Sheet.
6. **Repair:** Actual time spent on repair/overhaul.
7. **Cal:** Time spent for calibration of unit after repair/overhaul has been completed. (As needed)
8. **Seal:** Date the unit is sealed. – All units will be given a 1.0 hour processing time to include the opening and sealing. Space is provided on the Work Order Form for three cycles through paint and seal, you must notify Production Control or Quality Assurance whenever a unit takes more than three cycles through seal.
- When a unit is recycled through seal process the reason for returning it for recycling must be noted on the work order Teardown Report block and the Work Accomplished block. Example: Teardown Report block "...Unit failed final test after seal, null voltages to high 08/30/03" Work Accomplished block "Failed post seal test - Returned to P&S for reopen 08/30/03."
9. **Fog:** Date the unit is fog checked. All units will be given .50 hour processing time. Additional space has been allocated for those units that need a fog check more than one time.
10. **Pnt:** Date the unit is painted. All units will be given .50 hour processing time. Additional space has been allocated for those units that go to paint more than one time.

PRODUCTION PROCESS FORMS INSTRUCTION

Operational Procedure : **AOP-75-01-1**

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- 11. Final:** Time spent to final test the unit after paint/seal has been completed to verify it is in compliance with the specifications and it is ready to send to customer.
- 12. Teardown Report:** A written report of the findings during the incoming process. (i.e. verification of the customer complaint, additional problems found and listing of bad parts). If additional problems are found after teardown is completed, it should be noted as such on teardown report (Sample *-found during repair – Transformer T1 shorted* - Date and Initials are required)
- 13. T.O. Used:** Technical specifications used for repair/calibration of the unit. (i.e. ATP#, Mfg Pub#, DMWR# or NAVAIR#) Do not use the section number that is assigned by the Airtronics Library personnel and typically hand written in on the tab of the folder that is used to bind the T.O.'s or drawings together. that number is meaningless to anyone outside of Airtronics. List revision/change number and date of publication/drawing used.
- 14. T.E. Used:** Test equipment used in repair/calibration.
- 15. Work Accomplished:** A detailed summary of specific steps performed in the repair/overhaul of a unit. Entries are to be made as work is performed. See attached example.
- 16. Technician:** Signature of technician that completed the unit.
- 17. Date:** Date unit is completed.

4.1.1 Additional information on the process requirements and controls on this form can be found in AOP-75-01-2 PRODUCTION WORK FLOW PROCESS INSTRUCTIONS

4.2 FORM 2000-B-006 - MATERIAL RECORD

This form is used to record the Parts and special materials used for the repair/overhaul process for the product associated to the work order and typically found on the back of the Work Order Form 2000-B-006. Entries are to be made to this form as parts are consumed.

(Items to be filled in by technician as parts are consumed)

- 1. Item number.
- 2. Part number of component/parts used.
- 3. Nomenclature of component/parts.
- 4. Date component part installed.
- 5. Quantity used.
- 6. Source of component/part (i.e. stock, CFM)
- 7. Sell Price – price per unit/part.
- 8. Total Price.
- 9. Tech comments: To be used when additional information is required from the technician concerning the condition of the unit.

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PRODUCTION PROCESS FORMS INSTRUCTION		
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Operational Procedure : AOP-75-01-1
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10. Parts total: Summation of all parts cost, to be completed only when work order technician signature block is signed by the technician, just prior to turning the work order and end item(s) into QA.

4.3 **FORM 2000-C-007 - PROCEDURE FOR RETURN TO STOCK FORM**

Person returning part: When filling out the Return to Stock Form, please observe the procedure and fill in the request completely for items 1 thru 11.

1. Work order number.
2. End item part number.
3. Reason for return: **Part Defective** (Explain how the part is defective, and details leading to part being defective if it was damaged during handling or installation process), **Wrong Part Ordered** (Explain what caused you to order the wrong part), **Not Needed** (Explain why part is not needed – Item Closed Not Repaired, Original Part Was Not Defective, Repaired Original Part, etc.)
4. Item number.
5. Quantity of item being returned.
6. Sell Price per item being returned.
7. Part number of item being returned.
8. Nomenclature of item being returned.
9. Condition of part – is it **GOOD** or **BAD** and was it **USED** (installed) or **NOT USED** (not installed).
10. Your signature.
11. The date the part is returned.

4.4 **GA129A-1 - PARTS REQUEST/ISSUE FORM Procedures**

When filling out the parts request form, observe the procedures and fill in the request completely for items 1 thru 20. Turn the completed parts request into Inventory Control after the gold copy has been attached to the back of the work order. **Do not wait for the parts to be issued by the inventory control personnel. Inventory Control Personnel will deliver the parts or forward the request to production control as soon as it is processed.**

1. To whom the request is directed (i.e. inventory). **INTEROFFICE USE ONLY – NOT FOR TECHNICIANS USE.**
2. Date submitted. - **INTEROFFICE USE ONLY – NOT FOR TECHNICIANS USE.**
3. Work order number.
4. Initials of Person requesting parts or materials.

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PRODUCTION PROCESS FORMS INSTRUCTION		
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Operational Procedure : AOP-75-01-1	Revision: 2.0	Page 5 of 5
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5. End item (Item name or nomenclature, End Item part number, End Item Manufacturer, End Item Serial Number as listed on work order).
 6. Salesperson- (NOT REQUIRED AT THIS TIME).
 7. Department of origination. (NOT REQUIRED AT THIS TIME).
 8. Management Authorization for items other than normal repair/overhaul such as TE, analysis, etc. **NOT FOR TECHNICIANS USE**
 9. Part number of the end item.
 10. Date of origination.
 11. Manufacturer of the end item.
 12. Additional hrs. required to complete the work order, above the assigned hrs.
 13. NSN of the end item.
 14. Serial Number of the end item
 15. Quantity of requested items.
 16. Requested item part number – All parts request turned into inventory must have a part number listed. If the part number is unknown see the Quality Assurance for further assistance.
 17. Description of the requested part (i.e. resistor, capacitor, diode, value & tolerance, type. If a hardware item, material & size (i.e. screw, machine 10-32 x 1” brass).
 18. Misc. information concerning the request (i.e. P & D only for IC only work orders; Red Dot for rush work orders, MICAP if on work order. If parts are needed in order to complete Incoming process you should state as such).
 19. The contract number/purchase order number is normally listed on the work order as CUST P.O.
 20. Not to exceed price listed on work order.
 21. Amount already spent to date on the work order.
- 4.4.1 Additional information on the process requirements and controls on this form can be found in AOP-75-01-2 WORK ORDER PROCESS

5.0 **RECORDS**

- 5.1 [QOP-42-03](#) Control of Quality Records.

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PRODUCTION PROCESS FORMS INSTRUCTION		
Operational Procedure : AOP-75-01-2	Revision: 2.0	Page 1 of 4
WORK ORDER ENTRY PROCESS		

1.0 PURPOSE

1.1 To establish the procedure used by Airtronics, Inc. Production Department in processing the product using the applicable forms.

2.0 SCOPE

2.1 This procedure encompasses the steps taken to generate a work order for a newly received item sent in by a customer for service.

3.0 REFERENCES

- Form 2000-B-006 - Work Order Form
- AOP-75-01-1 - Production Work Flow Process Instructions
- QOP-75-01 - Production Control


4.0 PROCEDURE

4.1 FORM 2000-B-006 - WORK ORDER FORM

This form is used as a traceable instrument to document all work performed and parts used on a customer item. Therefore it is of high importance that the integrity of this document be maintained at all times to meet the requirements of our FAA, DOD or commercial customers. All entries made by technicians on this document shall be made in Black ink. Management personnel may use Red or Blue ink to make entries or changes more noticeable.

Items to be filled in by Incoming Receiving Personnel at time of receipt of the unit to accurately reflect the status or state a process is currently in.

1. **Possible Warranty:** This is entry automatically generated by the AIMS Computer Program.
2. **OLD WO#:** . This is entry automatically generated by the AIMS Computer Program.
3. **WORKORDER NO.:** This is entry automatically generated by the AIMS Computer Program.
4. **AIRCRAFT:** This is entry automatically generated by the AIMS Computer Program.

Approved by : 		QUALITY ASSURANCE MANAGER
Originated by : PG JUAREZ	This Revision Date : 02 December 2009	

PRODUCTION PROCESS FORMS INSTRUCTIONOperational Procedure : **AOP-75-01-2**

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5. **OLDSHIP:** This is entry automatically generated by the AIMS Computer Program. Aims program searches history data base to look for previous input of a part number & serial number combination and fills in blocks 1, 2 & 5 if unit has been in house in the past 360 days.
6. **CUSTOMER P.O.#** This is the Purchase Order number the customers shipping document is referencing.
7. **DATE IN:** This is entry automatically generated by the AIMS Computer Program. – Default is date of entry date.
8. **MISCELLANEOUS:** This field is normally left blank
9. **DUE OUT DATE:** This entry is automatically generated by the AIMS Computer Program. Normal default is 30 days from date of entry but can be changed manually if customer is requesting expedited service due to AOG or MICAP.
10. **PART NUMBER:** Part Number as found on the I.D. plate of the item in for service. Part Number should be verified against the customer shipping/P.O. documents.
11. **NSN:** National Stock Number. This entry is automatically generated by the AIMS Computer Program. It is generated from a Standard Decryption This entry is automatically generated by the AIMS Computer Program, , it is associated to the PN in the Standard Description Data Base Table.
12. **S/N:** Serial Number as found on the I.D. plate of the item in for service. Serial Number should be verified against the customer shipping/P.O. documents.
13. **NOMENCLATURE:** This entry is automatically generated by the AIMS Computer Program, it is associated by the PN in the Standard Description Data Base Table.
14. **FAA:** FAA 8130-3 Return to Service Tag. This entry is automatically generated by the AIMS Computer Program. It is generated from a Customer Data Table inside the program based upon previous arrangements made with military and /or commercial customers but can also be manually selected.
15. **OHC:** Overhaul Certification Required. This entry is automatically generated by the AIMS Computer Program. It is generated from a Customer Data Table inside the program based upon previous arrangements made with military and /or commercial customers but can also be manually selected.
16. **MIL:** This entry is automatically generated by the AIMS Computer Program. It is generated from a Customer Data Table inside the program based upon previous arrangements made with military customers but can also be manually selected.
17. **TD:** Tear Down Report. This entry is automatically generated by the AIMS Computer Program. It is generated from a Customer Data Table inside the program based upon previous arrangements made with military and /or commercial customers but can also be manually selected.

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18. **S/S:** Not Used
19. **G/L:** Government Locker: This entry is automatically generated by the AIMS Computer Program. It is generated from a Customer Data Table inside the program based upon previous arrangements made with military customers but can also be manually selected to designate that it should be secured in the Government Bond Room Area when it is not in work.
20. **GSI:** Government Source Inspection Required. This entry is automatically generated by the AIMS Computer Program. It is generated from a Customer Data Table inside the program based upon previous arrangements made with military customers but can also be manually selected.
21. **COC:** Certificate of Conformance. This entry is automatically generated by the AIMS Computer Program. It is generated from a Customer Data Table inside the program based upon previous arrangements made with military and /or commercial customers but can also be manually selected.
22. **MIL:** Military Maintenance Release Tag. This entry is automatically generated by the AIMS Computer Program. It is generated from a Customer Data Table inside the program based upon previous arrangements made with military and /or commercial customers but can also be manually selected.
23. **SPECS:** Specifications to be used for servicing the item. This entry is automatically generated by the AIMS Computer Program. It is generated from the Standard Description Table inside the program based upon previous determinations made Production and Quality Assurance for the requirements of the associated PN of the item to be serviced.
24. **SERVICE INSTR:** Special Service Instructions requested by the customer – found on customer shipping doc/P.O.
25. **INCOMING ONLY:** This block is checked when customer is asking for failure analysis & repair costs be authorizing repairs.
26. **TECH:** Assigned Technician. This entry is automatically generated by the AIMS Computer Program. It is generated from the Standard Description Table inside the program based upon previous determinations made by the General Manager, Production Controller and Quality Assurance on personnel best suited to work on the associated PN of the item to be serviced.
27. **EST/HRS:** Estimated Hours. This entry is automatically generated by the AIMS Computer Program. It is generated from the Standard Description Table inside the program based upon previous determinations made by the General Manager and Production Controller for the associated PN of the item to be serviced, based upon historical data collected on specific part numbers in for service.

PRODUCTION PROCESS FORMS INSTRUCTION		
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- 28. **NTE:** Parts Not to Exceed Limitations. This entry is automatically generated by the AIMS Computer Program. It is generated from the Standard Description Table inside the program based upon previous determinations made by the General Manager and Production Controller for the associated PN of the item to be serviced.
- 29. **CUSTOMER NOTED DEFECTS:** This is the Defect/Complaint taken from the Customers shipping Doc/P.O. or condition tag attached to the unit.
- 30. **COMMENTS:** This block is for noting anything found during the incoming inspection, such as damaged shipping box, broken instrument glasses, damaged connectors, etc.

Work Order Entry Process is complete. Turn in all receiving paperwork to the Production Controller for verification of proper data entry.

5.0 **RECORDS**

- 5.1 [QOP-42-03](#) Control of Quality Records.

This procedure is revision controlled by incorporation into the Airtronics FAA Repair Station Manual (RSM). All changes to this document must be coordinated through the FAA in accordance with the Requirements specified in the RSM.

RECEIVING/STORAGE OF MATERIAL		
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Operational Procedure : AOP-75-04-1	Revision: 2.0	Page 1
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1.0 **PURPOSE**

1.1 To establish the procedure used by Airtronics, Inc. Production Department in the receiving and storage of materials received from suppliers.

2.0 **SCOPE**

2.1 This procedure shall encompass all material received from Airtronics, Inc. suppliers that will eventually be used in product shipped to customers.

3.0 **REFERENCES**

- [QOP-83-01](#) - Control of Nonconforming Product
- [AOP-75-05-1](#) - Control of Shelf Life Materials

4.0 **PROCEDURE**

4.1 **Upon receipt of shipment:** All parts & material received at Airtronics, Inc. shall be received per AOP 75-04-2.

4.2 After **receipt of shipment:** Material received by Airtronics, Inc. for use in finished products shall go through Quality Incoming Inspection.

4.3 Any material found to be discrepant during inspection shall have a NCR FORM [QOP 83-01-1](#) initiated and segregated from usable material per [QOP 83-01](#).

4.4 All material received shall be compared to the requirements of the open purchase order for proper count, identification and damage.

4.5 Acceptance of material shall be by completion of the Material Inspection Log Form 2000-C-013 and a Inspection to Stock Ticket 2000-C-016 attached to the material package and forwarding it to stock.

4.6 Purchase orders shall be closed out when all material identified is received in acceptable condition.

4.7 The material shall then be turned over to Material Control for processing into inventory.

4.8 Material Control shall place the material in the appropriate bin or carton within the stock room.

Approved by :		QUALITY ASSURANCE MANAGER
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Originated by : PG JUAREZ	This Revision Date : 2 DECEMBER 2009
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RECEIVING/STORAGE OF MATERIAL

Operational Procedure : AOP-75-04-1
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Revision: 2.0

Page 2

- 4.9 All static sensitive material shall remain in there shipping bags or tubes, depending on the applicable packing.
- 4.10 As per the requirements of [AOP 75-05-1](#), all material that is date sensitive shall have a date tracking label affixed to the material container.
- 4.11 All material accepted, shall be logged into the Inventory Database System and received into Material Control.

- 5.0 **RECORDS**
- 5.1 [QOP-42-03](#) Control of Quality Records.



RECEIVING PROCEDURE

Operational Procedure : AOP-75-04-2	Revision: 2.0	Page 1
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1.0 PURPOSE

1.1 To establish the requirements for the receiving of all parts, materials and end items at Airtronics, Inc.

2.0 SCOPE

2.1 All parts, end items and/or materials used to directly support the repair, overhaul and/or manufacturing of an end item received at Airtronics, Inc. are subject to the requirements of this procedure.

3.0 REFERENCES

- [AOP-75-04-1](#) - Receiving & Storage of Materials
- [QOP-83-01](#) - Non Conforming Material

3.1 DEFINITIONS

- The term 'End Item' herein this procedure, is synonymous with the term 'Article' when applied to work performed in accordance with FAA FAR part 145 requirements.

4.0 RESPONSIBILITY

4.1 Receiving is responsible for assuring that all material received at Airtronics, Inc. is covered by one of the following:

- a. An Airtronics, Inc. Purchase Order.
- b. Cash register receipt and/or a receipt of local purchased material (work order applicable).
- c. A Government or customer Bill of Lading or Packing Slip.

4.2 The Contracts Administrator is responsible for making any necessary decisions on the receiving of any government prime contract materials shipment.

5.0 PROCEDURE

5.1 Upon receipt of shipment:(I.e. Direct Product Support Parts (**DPSP**), End Items (Article) and Material)

5.1.1 Verify that the actual shipment matches the description on the shipper's Bill of Lading or Packing Slip.

Approved by :	
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QUALITY ASSURANCE MANAGER

Originated by : PG JUAREZ	This Revision Date : 02 DECEMBER 2009
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RECEIVING PROCEDURE		
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Operational Procedure : AOP-75-04-2
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Revision: 2.0

Page 2

- 5.1.2 Verify that the shipment is undamaged, quantity and type are correct. If any item is in questionable condition, inspect the condition of the remaining shipment.
- 5.1.3 Move material to either quality inspection (DPSP) or inventory control (end item) for processing.
- 5.1.4 Tag and segregate all discrepant items or items not conforming to purchase order requirements, initiate NCR ([Form-83-01-1](#)) and process material per [QOP-83-01](#) Non Conforming Material.
- 5.1.5 Upon completion of inspection move to material/Inventory control.

5.1.6 Customer End Items

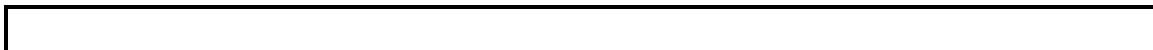
- 5.2.1 Input information into Data Base from Bill of Lading or Packing Slip.
- 5.2.2 When end item serial number or part number does not match customer document. A yellow label is attached to the customer's document with the correct information and the incorrect information for work order correction.
- 5.2.3 Special focus will be given to customer needs and requirements. Example: All end Items (Articles) received at Airtronics from the US Coast Guard must have a "U.S. COAST GUARD REPAIR RECORD."
- 5.2.4 Print status tag with work order number and move end item into bond room. Assign location.
- 5.2.5 Input assigned bend room location into Electronic Database.
- 5.2.6 Stamp customer documents with date received and posted stamp, route to production control.

5.2.7 Direct Product Support Parts

- 5.2.8 Match Packing List to Airtronics purchase order. Date stamp packing list and purchase order as received and route to quality for inspection.
- 5.2.9 Upon completion of inspection, if DPSP are accepted route to material control for processing into stock.
- 5.2.10 If DPSP are rejected initiate NCR (Form-83-01-1) and move to designated Non-Conforming Material Hold Area..

6.0 RECORDS

- 6.1 [QOP-42-03](#) Control of Quality Records



PRODUCT RETURN PROCEDURE

Operational Procedure : **AOP-75-04-3**

Revision: 2.0

Page 1

1.0 PURPOSE

The purpose of this procedure is to control customer returns thru the RMA system.

2.0 SCOPE

This procedure concerns commercial and base customer returns only and is not applicable to prime contract items.

3.0 REFERENCE

- Warranty Work/Failure Analysis (Form 2000-C-005)
- Return Material Authorization (Form 2000-B-007)
- Return Material Authorization Log (Form 2000-B-008)

4.0 PROCEDURE

- 4.1 Customer contacts Airtronics, Inc. for a return of defective product.
- 4.2 Production Control retrieves old work order and invoice and fills out the Return Authorization Form.
- 4.3 PC reviews information and assigns RMA number using the work order number with an R following with the WO number. Sample (R12345)
- 4.4 PC informs customer of RMA number and records information into RMA Log.
- 4.5 PC distributes a copy of the form to Receiving and QA.
- 4.6 Once the product is received at Airtronics, Inc. a new WO is issued and routed to QA. The work order is logged into the Customer Return Log for determination of valid or invalid return.
- 4.7 The return is processed thru the normal repair cycle. Upon completion of incoming analysis in production, QA is notified of the discrepancy to determine warranty status. A Form 2000-C-005 Warranty Work/Failure Analysis is initiated to document discrepancies and create corrective/preventive action if trends exist.
- 4.8 PC is notified and the product is either repaired if in warranty or the customer is notified of non warranty status.
- 4.9 Upon completion of the work order, the Return Material Authorization Form accompanies all paperwork to the invoicing stage.

5.0 RECORDS

- 5.1 RMA Forms are filed with the WO and RMA log.

Approved by :



QUALITY ASSURANCE MANAGER

Originated by : PG JUAREZ

This Revision Date: 02 DECEMBER 2009

RECEIVING PROCEDURE FOR RAW MATERIAL

Operational Procedure : **AOP-75-04-4**

Revision: 1.0

Page 1

1.0 PURPOSE

1.1 To establish the requirements for the receiving of raw material at Airtronics, Inc.

2.0 SCOPE

2.1 All raw material used to directly support the repair, overhaul and/or manufacturing of built to print items at Airtronics, Inc. are subject to the requirements of this procedure.

3.0 REFERENCES

- [AOP-75-04-1](#) - Receiving & Storage of Materials
- AOP-75-04-2 – Receiving Procedure
- [QOP-83-01](#) - Non Conforming Material

4.0 RESPONSIBILITY

- 4.1 Receiving is responsible for assuring that all raw material received at Airtronics, Inc. is covered by the following:
- a. An Airtronics, Inc. Purchase Order.
 - b. All required material certifications per Purchase Order.

5.0 PROCEDURE

- 5.1 Upon receipt of shipment: verify count, part number and correct material per supplier certifications and Purchase Order.
- 5.1.1 Verify that the actual shipment matches the description on the shipper's Bill of Lading or Packing Slip.
- 5.1.2 Any raw material purchased and/or dropped shipped to a manufacture will be shipped back to Airtronics with completed end items and material certifications.
- 5.1.3 Tag and segregate any discrepant items not conforming to purchase order requirements, initiate NCR ([Form-83-01-1](#)) and process material per [QOP-83-01](#) Non Conforming Material.
- 5.1.4 Upon completion of inspection move material to Material Control for disposition.
- 5.1.5 All material will have a copy of the certification at all times for identification and traceability.

Approved by :



QUALITY ASSURANCE MANAGER

Originated by : PG JUAREZ

This Revision Date : 02 DECEMBER 2009

RECEIVING PROCEDURE		
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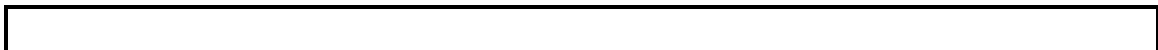
Operational Procedure : AOP-75-04-4	Revision: 1.0	Page 2
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(Continuation)

5.1.6 Original certifications will remain with Purchase Orders and filed.

6.0 RECORDS

6.1 QOP-42-03 Control of Quality Records



CONTROL OF SHELF LIFE MATERIALS

Operational Procedure : **AOP-75-05-1**

Revision: 1.0

Page 1

1.0 PURPOSE

1.1 To describe the requirements used at Airtronics, Inc. on how date sensitive material is handled.

2.0 SCOPE

2.1 All material received at Airtronics, Inc. that is date sensitive shall be controlled as indicated in this procedure.

3.0 REFERENCES

- [AOP-75-04-1](#) - Receiving/Storage of Materials
- [QOP-83-01](#) - Non Conforming Material Procedure
- Manufacturer's Material Safety Data Sheet (MSDS)
- Manufacturer's Technical Data Sheet

4.0 PROCEDURE

4.1 All material received at Airtronics, Inc. shall be verified by Quality Assurance Inspection before being placed into stock as per AOP-75-04-1.

4.2 All material placed in the stockroom shall be handled as described in AOP-75-04-1.

4.3 All material received shall be marked (Label) with the date received, PO, the supplier name and the shelf life order of precedence from the **Navy Hazardous Material List @ <http://n11.ahf.nmci.navy.mil/com.cfm>**. If not listed the manufacturers recommended shelf life will be used.

4.4 Airtronics, Inc. uses the First In-First Out (FIFO) system of controlling material in stock.

4.5 When Shelf Life inventory is audited in the stock room, Airtronics, Inc. personnel shall review the expiration dates for acceptability. If material will expire soon, the Material Control shall notify QA Manager to determine if the material will be used prior to expiration. If not, Purchasing shall order new material and the out of date material will be scrapped out.

4.6 Quality Assurance shall perform audits of the stockroom to assure that out of date material is not being issued.

4.7 Material Control shall remove the shelf life label when material is issued.

5.0 RECORDS

5.1 [QOP-42-03](#) Control of Quality Records.

Approved by :



QUALITY ASSURANCE MANAGER

Originated by : PG JUAREZ

This Revision Date 02 DECEMBER 2009

CONTROL OF QUALITY STAMPS		
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Operational Procedure : AOP-82-00-1
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Revision: 2.0

Page 1 of 2

1.0 PURPOSE

1.1 To indicate how quality inspection stamps are controlled at Airtronics, Inc.

2.0 SCOPE

2.1 This document covers the use of all quality inspection stamps at Airtronics, Inc.

3.0 REFERENCES

- AS 9100 / ISO 9001:2008
- Form 2000-C-009 – Quality Stamp Log

4.0 RESPONSIBILITY

- 4.1 The Quality Assurance Manager shall control the storage and issuance of inspection stamps.
- 4.2 Quality Assurance Inspectors are responsible for the safekeeping of stamps issued to them. Loss of any stamps shall be promptly reported to the Quality Assurance Manager.

5.0 PROCEDURE

- 5.1 The Quality Assurance Manager maintains a Stamp Log reflecting the status and location of all inspection stamps. All issued stamps, replacements, and cancellations are recorded.
- 5.2 Inspection stamps are used to indicate acceptance of material, parts and assemblies. Their use is intended to ensure that adequate inspection is performed before material is moved between critical in-process points.
- 5.3 Stamps are only to be used by the quality assurance inspection personnel that they are assigned to. Where lot size and the physical size of the item permit, and where it will not affect the parts, stamps shall be affixed to every item in a lot. Large lots of small items are marked by stamping an identifying tag attached to a part or the box.
- 5.4 Each inspector is assigned a stamp numbered so as to be unique to that inspector.

Approved by :



QUALITY ASSURANCE MANAGER

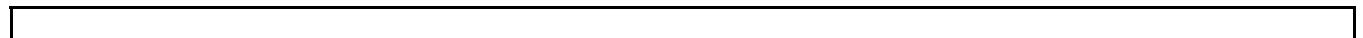
Originated by : PG JUAREZ

This Revision Date : 02 December 2009

CONTROL OF QUALITY STAMPS		
Operational Procedure : AOP82-00-1	Revision: 2.0	Page 2 of 2

- 5.5 Personnel transferring to another department or leaving the company are required to turn in all stamps issued to them. These stamps are withheld from re-issue for at least one month.
 - 5.6 If a stamp is lost, all stamps of the same number are recalled and the stamp number is held from re-issue for at least one year.
 - 5.7 Worn stamps are returned to the Quality Assurance Manager for destruction.
 - 5.8 Stamps are not allowed to be used by any person other than the individual to whom issued. Stamps shall be kept clean for legible marking and shall not be altered in any way.
- 6.0 **RECORDS**
- 6.1 [QOP-42-03](#) Control of Quality Records

This procedure is revision controlled by incorporation into the Airtronics FAA Repair Station Manual (RSM). All changes to this document must be coordinated through the FAA in accordance with the Requirements specified in the RSM.



IN-PROCESS INSPECTION PROCEDURE
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Operational Procedure : AOP-82-04-1	Revision: 1.0	Page 1
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1.0 PURPOSE

1.1 To indicate how production processes and inspections are performed and documented during the product flow.

2.0 SCOPE

2.1 Products that will be shipped to our customer shall be subject to in-process inspection, test, or evaluation as applicable.

3.0 REFERENCES

- ISO AS 9100 / 9001-2008 SECTION 4.1
- [QOP-83-01](#) - Control of Non Conforming Product
- [QOP-42-03](#) - Control of Quality Records

4.0 DEFINITIONS


4.1 NONE

5.0 RESPONSIBILITY

5.1 Quality Assurance is responsible for:

- 5.1.1 Assuring that all required inspection criteria is available from approved inspection instructions and specifications (as applicable) for acceptance of product..
- 5.1.2 Reviewing the in-process inspection/test criteria for any required modification, using feedback from Production or Test.
- 5.1.3 Perform required inspections and record results on the work order.
- 5.1.4 Notifying all necessary departments of non-conforming material placed on hold by initiating a Nonconforming Report Form 83-01-1.
- 5.1.5 Maintaining control of conditionally accepted material as well as scrap material.

6.0 PROCEDURE

Approved by :	
	QUALITY ASSURANCE MANAGER
Originated by : PG JUAREZ	This Revision Date : 04 DECEMBER 2009

IN-PROCESS INSPECTION PROCEDURE		
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6.1 INSPECTION CRITERIA

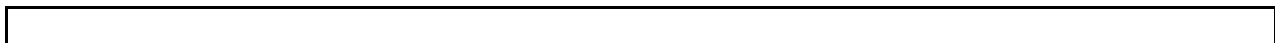
- 6.1.1 The work order will be used in conjunction with the applicable specifications and will indicate the points to be inspected.
- 6.1.2 Inspection will be made of each end item to determine its condition with the aid of proper tools, gauges and test equipment.
- 6.1.3 When end items are determined to be discrepant they will be processed thru the repair and inspection processes.
- 6.1.4 Items found to be non repairable will be noted on the work order and a red rejection tag will be attached and removed from production.
- 6.1.5 Items which Airtronics, Inc. has no data or the capability for test shall have a Green Tag (repairable) initiated and returned to the customer as a repairable item.
- 6.1.6 The items will be routed to Quality Assurance for disposition.

6.2 PRODUCTION IN-PROCESS INSPECTION

- 6.2.1 A cursory inspection of the repaired end item per the applicable specifications and any special instructions, to assure that all requirements have been completed.
- 6.2.2 Quality Assurance will assure (as applicable) in-process inspection check points on the work order have been documented.
- 6.2.3 Any end items which are found to be discrepant during inspection will have a Form 53-01-1 Nonconforming report initiated and returned for rework and corrective action.
- 6.2.4 All end items will be inspected in accordance with contract requirements.
- 6.2.5 Each end item will be visually inspected for workmanship and appearance per item specification requirements.
- 6.2.6 Final electrical test will be performed on 100% of all end items and documented per QDS test data document.
- 6.2.7 The end item and completed work order will be routed to Quality Final Inspection.

7.0 RECORDS

- 7.1 All inspection records will be maintained in accordance with [QOP 42-03](#) - Control of Quality Records Procedure.



FOREIGN OBJECT DEBRIS/DAMAGE GUIDELINES		
Operational Procedure : AOP-82-04-2	Revision: 2.0	Page 1

1.0 PURPOSE

To establish general workmanship practices and guidelines for the detection of Foreign Object Debris (FOD) and prevention of Foreign Object Damage (FOD).

2.0 SCOPE

This procedure applies to all personnel at Airtronincs.

This procedure applies the Airtronics to the extent of work performed to support the repair/overhaul, and manufacturing of aerospace components/products (military or commercial)

3.0 DEFINITIONS


Foreign Object Debris (FOD): A substance, debris or article alien to a vehicle or system which could potentially cause damage.

Foreign Object Damage (FOD): Any damage attributed to a foreign object that can be expressed in physical or economic terms which may or may not degrade the product's required safety and/or performance characteristics.

Potential FOD: The condition where foreign object debris may cause damage, and /or failure should the product be put into use. Examples specific to our organization are:

- Metal or wire clippings, solder balls and debris lying in the vicinity or electrical terminals, circuitry, connectors, components, etc.
- Electrostatic Discharge (ESD)
- Debris from inadequate housekeeping.
- Debris from any type of construction, remodeling, etc. that is being performed in the vicinity of production and/or test.

FOD Critical Areas: Any area where flight hardware is in place and exposure to foreign objects would potentially cause a system or product failure due to deterioration, malfunction or damage.

Approved by : 		QUALITY ASSURANCE MANAGER
Originated by : PG JUAREZ	This Revision Date : 03 March 2010	

FOREIGN OBJECT DEBRIS/DAMAGE GUIDELINES		
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Page 2

Critical FO: Foreign objects in areas from which migration is possible, e.g., through tooling holes, bend relief cutouts, drain holes, intakes,, etc. which are probable to cause system or component malfunction or deterioration should the

4.0 General

4.1 Airtronics maintains a planned and implemented Foreign Object Elimination Program (FOE) using a “continuous improvement” approach with an operational target of zero incidents.

4.1.1 It is the responsibility of all Airtronics to ensure that all employees understand the importance of FOD and implement a zero incident mentality, therefore all employee must understand the causes of FOD and FOD prevention and to notify management of any FOD or potential FOD.

4.1.2 Various measurement tools are utilized as deemed appropriate by management to enable visibility and information regarding FOD (incident reports, visibility charts, customer comments, concerns, or complaints, etc.)

4.2 The basic elements of our program are:

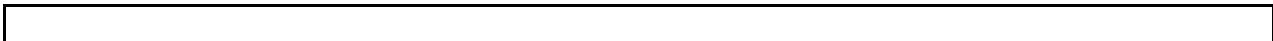
4.2.1 FOD Prevention training

4.2.1.1 The primary objective of our FOD prevention training program is to increase awareness to the causes and effects of FOD, promote active involvement through specific techniques, and stress good work habits through work disciplines.

4.2.1.2 Training for employees associated with design, development, manufacturing, test operations, repair, modification, refurbishment, and maintenance is required as part of initial job orientation and on continuous basis.

4.2.1.3 Training subjects include:

- Proper storage, shipping and handling of material, components, and equipment.
- Techniques to control debris
- Housekeeping
- Cleaning and inspection of components and assemblies
- Accountability/control of tools and hardware
- Control of personal items, equipment and consumables
- Care and protection of end items
- Quality workmanship (clean as you go inspection)
- How to report FOD incidents or potential incidents.



FOREIGN OBJECT DEBRIS/DAMAGE GUIDELINES		
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4.2.2 *Work instructions of overhaul/repair that includes proper care and use of equipment and part protective devices.*

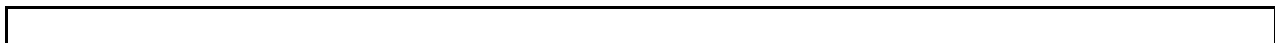
4.2.2.1 Procedures, work/assembly instructions, are established with FOD prevention in mind. This includes procedures that define specifics for sensitive parts, assemblies, surfaces, areas, etc.

4.2.2.2 Products in a test cell environment should include, but not limited to the following FOD procedures:

- 4.2.2.2.1 Assure adequate preventive maintenance is performed on the test environment.
- 4.2.2.2.2 Inspect the test cell(s) environment for cleanliness prior to introduction of the test article to the test environment.
- 4.2.2.2.3 Upon completion of each test run and prior to removal from the test cell, inspect the test article for presence of FOD.
- 4.2.2.3 The following should be included in fabrication and assembly work instructions as applicable.
 - 4.2.2.3.1 Cleaning and/or flushing of machined components to assure they are free of debris.
 - 4.2.2.3.2 Adequately protect hardware and equipment from splatter accumulation during brazing, soldering, welding and such operations.
 - 4.2.2.3.3 Inspect components and equipment for damage prior to installation and repair as necessary.
 - 4.2.2.3.4 Verify protective devices (end caps, dust covers, temporary seals, cushioning, etc. are present and properly installed.
 - 4.2.2.3.5 Inspect for and remove extraneous material as part of the each assembly step
 - 4.2.2.3.6 Inspect production tooling, jigs, fixtures, etc. to assure it is clean, undamaged and free of foreign material prior to installation and buildup of components or assemblies. Assure the same type of care for special test equipment which is in the vicinity of work stations.

4.2.3 *Handling of Material*

4.2.3.1 Material handling, storage, packaging, shipping procedures are in place that recognize FOD requirements. Inspection of all materials and material handling equipment used in storage, packaging and shipping areas should be performed at adequate intervals.



FOREIGN OBJECT DEBRIS/DAMAGE GUIDELINES		
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4.2.4 Housekeeping

4.2.4.1 Maintenance, manufacturing and operational areas must remain clean. House keeping is part of every employee's job. All employees must incorporate a "clean as you go" work ethic to prevent FOD from migrating into flight hardware. All production and test areas should meet "good housekeeping" standards.

4.2.5 Control of tools and personal items

4.2.5.1 All loose tools and personal items (when practical) should be contained in a tote tray, soft tool bag or other suitable spill proof container and not placed in a manner that would cause damage to flight hardware or injury to personnel.

4.2.6 Control of hardware/consumables

4.2.6.1 Hardware and consumables (nuts, bolts, screws, cotter pins, wire, etc.) should always be organized in such a manner to prevent migration into flight hardware. Hardware accountability should be instituted to ensure FOD prevention. The use of totes or equivalent type containers should be utilized whenever possible.

4.2.7 Control of hazardous material

4.2.7.1 Hazardous waste materials that can potentially migrate into flight hardware as FOD should be is to not be used or stored in the vicinity, and handled per our internal material handling procedures.

4.2.8 Awareness/Employee feedback

4.2.8.1 Awareness and employee feedback of FOD is critical to its' prevention. Awareness at Airtronics will be incorporated by various methods, such as:

- Initial training for all employees
- Periodic refresher training for all employees.
- Visual FOD postings throughout the facility.
- FOD references in applicable procedures.
- Customer/Supplier/Employee feedback-verbal and/or through FOD incident report. (2000-F-06-FOD Incident Report)

4.3 Reporting/Investigation of FOD

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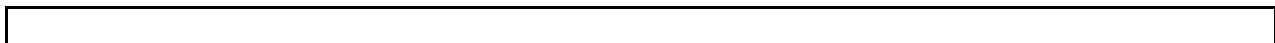
FOREIGN OBJECT DEBRIS/DAMAGE GUIDELINES		
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- 4.3.1 All incidents of actual or potential FOD should be reported and investigated.
- 4.3.2 A FOD incident report shall be generated (2000-F-06) when actual or potential FOD is discovered. The report shall include:
 - 4.3.2.1 Date
 - 4.3.2.2 Part name (nomenclature)
 - 4.3.2.3 Part serial number
 - 4.3.2.4 Part location
 - 4.3.2.5 When discovered
 - 4.3.2.6 How discovered
 - 4.3.2.7 Narrative description of FOD-when analyzed-who analyzed-how analyzed
 - 4.3.2.8 Root cause
 - 4.3.2.9 Corrective action
 - 4.3.2.10 Reported By
- 4.3.3 After an FOD incident report is generated, operations should immediately cease and an investigation initiated to determine the cause. Cause and corrective action should be attained in a timely manner to preclude similar occurrences from happening in the future – “lessons learned.” Cause may be determined by visual observation, analysis or by location of the object.
- 4.3.4 When an acceptable resolution is obtained the incident report shall be closed and filed in QA files.



FINAL INSPECTION PROCEDURE

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1.0 PURPOSE

1.1 This procedure establishes the requirements for final inspection by Quality Assurance on all products shipped to Airtronics, Inc. customers.

2.0 SCOPE

2.1 This procedure covers the final verification of all product shipped from Airtronics, Inc.

3.0 REFERENCES

3.1 AS 9100 / ISO 9001-2008 SECTION 4.1

3.2 Control of Non Conforming Product – [QOP-83-01](#)

3.3 Control of Quality Records – [QOP-42-03](#)

4.0 DEFINITIONS

4.1 NONE

5.0 RESPONSIBILITY

5.1 It is the Technicians responsibility to insure all final assemblies, manufactured product and/or materials are acceptable for final inspection prior to submission to Quality Assurance.

5.2 Quality Assurance is responsible for:

5.2.1 Assuring that all required inspection criteria is available from approved inspection instructions and specifications (as applicable) for acceptance of product.

5.2.2 Notifying all necessary departments of non-conforming product placed on hold by initiating a Nonconforming Report Form [83-01-1](#).

Approved by :	
	QUALITY ASSURANCE MANAGER
Originated by : PG JUAREZ	This Revision Date : 25 MARCH 2010

FINAL INSPECTION PROCEDURE		
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6.0 PROCEDURE

6.1 INSPECTION CRITERIA

- 6.1.1 All final assemblies, manufactured product or materials shall be acceptable for final inspection; only after all final production operations have been completed, and documented as such on it's associated Work Order and Quality Data Sheets and/or process inspection sheets. Technician will separate parts request form and attach only the white copy (discard the other copies) to the workorder. All corresponding paperwork will be stapled at upper right hand corner above the WO number, when turned into Quality. The work order, test data sheet, in-line inspection sheets and parts request forms shall be free of all other staples or paper clips to allow electronic scanning.
- 6.1.2 Upon completion of all production operations the technician will make a foreign object check and account for all tools used in the process.
- 6.2 The Quality Manager is responsible for assuring that adequate instructions are available to inspection personnel.
- 6.3 All work order data sheets shall be reviewed by the Quality Inspector for completeness, accuracy and acceptability.
- 6.4 At final inspection, the Quality Inspector shall assure that the correct part number, item type and serial number match the work order.
- 6.5 Final inspection shall also assure that the items tested as per the Quality Data Sheet or Manufacturing Process Inspection Sheets (Inspection Dimensional Report) are complete and accurate when submitted.
- 6.6 The final inspector shall visual inspect all product for cleanliness and damage.
- 6.7 If the product is found to be unacceptable per 6.1.1 thru 6.6, the inspector shall initiate a form 53-01-1 (Nonconforming Report) and notify the responsible technician. The product will be returned for rework/repair and corrective action.
- 6.8 If the product meets all contract requirements, Quality Inspection will apply an acceptance stamp to identify the accepting inspector and date of acceptance.
- 6.9 The product is processed to a hold area till shipping invoices are prepared.



FINAL INSPECTION PROCEDURE		
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6.10 The accepted work orders are processed to Production Control for closure and routed to Contracts Administrator for preparation of the shipping invoices.

7.0 **DOCUMENTATION**

7.1 All Final Inspection data will be maintained in accordance with Control of Quality Records Procedure – [QOP 42-03](#).



FIRST ARTICLE PROCESSOperational Procedure : **AOP-82-06-1**

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1.0 PURPOSE

1.1 To establish the process and procedures used by Airtronics, Inc. in processing the product using the applicable forms described herein, to give objective evidence that all engineering, design and specifications required by contract and drawing packages are accounted for and verified by Production and Quality.

2.0 SCOPE

2.1 This procedure outlines the process of FAT contracts produced by Airtronics, Inc. This process was developed under the guidelines of AS9102, Rev A., First Article Inspection Requirement. The intent of this procedure is to act as a guideline to follow the Requirements specified in the Standard.

3.0 REFERENCES

- Form 2000-B-006 – AS9102 First Article Inspection Form
- AS9102 First Article Inspection Requirement Standard
- Airtronics Inc. Quality Manual (QM)
- Airtronics Operational Procedures Manual (AOP)
- Quality Operational Procedures (QOP)

4.0 PROCEDURE**4.1 DEFINITIONS (as specified in the AS9102 Standard)**

4.1.1 **ATTRIBUTE DATA:** A result from a characteristic or property that is appraised only as to whether it does or does not conform to a given requirement (for example, go/no-go, accept/reject, pass/fail, etc.).

4.1.2 **DELIVERABLE SOFTWARE:** Embedded or loadable airborne, space borne or ground support software components that are part of an aircraft Type Design, weapon system, missile or spacecraft.

4.1.3 **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.

Approved by:



QA Manager

Revision Date : 12/04/2009

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- 4.1.4 **DRAWING REQUIREMENTS:** Requirements of the drawing (including Parts Lists), specification, or purchasing document to which the article is to be made. These include any notes, specifications, and lower-level drawings invoked.
- 4.1.5 **FIRST ARTICLE INSPECTION (FAI):** 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.
- 4.1.6 **FIRST ARTICLE INSPECTION REPORT (FAIR):** The forms and package of documentation for a part number or assembly, including FAI results, as per this Standard.
- 4.1.7 **FIRST PRODUCTION RUN PARTS:** The first group of one or more parts that are the result of a planned process designed to be used for future production of these same parts. Prototype parts, or parts built using methods different from those intended for the normal production process, shall not be considered as part of the first production run.
- 4.1.8 **MULTIPLE CHARACTERISTICS:** Identical characteristics that occur at more than one location (e.g., "4 Places") but are established by a single set of drawing requirements (e.g., rivet hole size, dovetail slots, corner radii, chemical milling pocket thickness).
- 4.1.9 **PRODUCT:** The result of a process, which in the context of this Standard includes finished detailed parts and assemblies. It also includes forgings and castings.
- 4.1.10 **REFERENCE CHARACTERISTICS:** The characteristics that are used for "information only" or to show relationship. These are dimensions without tolerances and refer to other dimensions on the drawing.
- 4.1.11 **STANDARD CATALOG HARDWARE:** A part or material that conforms to an established industry or national authority published specification, having all characteristics identified by text description, National/Military Standard Drawing, or catalog item.
- 4.1.12 **VARIABLES DATA:** Quantitative measurements taken on a continuous scale. For example, the diameter of a cylinder or the gap between mating parts.
- 4.1.13 **FAT - First Article Test**
- 4.1.14 **FAI - First Article Inspection**
- 4.1.15 **QDS/In Process sheets – Airtronics Quality Data Sheets used to records data per test points or specifications**

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4.2 Requirements:

- 4.2.1 Contract award is reviewed by President or Top Management before accepting award.
- 4.2.2 Conditions for verification include price, terms, delivery and build specifications.
- 4.2.3 Once information is verified, contract is signed and accepted and sent to the Government/Customer

4.3 Planning Process and Production Flow for FAT

All FAT contracts shall follow these processes for FAI (First Article Inspection).

- 4.3.1 After contract acceptance contracting notifies Production of new contract and enters information into Aims Production data base. Work orders are assigned to Contract and distributed to personal assigned to perform on contract. In Accordance with **AOP-75-01-2**.
- 4.3.2 Contracting and Production team review contract to ensure all processes are included on the Work order. Work Order AOP-75-01-1 - Production Work Flow Process Instructions. QOP-75-01 – Production Control. This includes outside processes performed by subcontractors and internal processes that need to be inspected by QA listed on Work Order. Airtronics, Inc work order includes processes such as Machine Ops, Welding, Debur, Heat Treat, Plating, Painting; Etc. Drawings supplied by customer are a part of the work order traveler used in production. Production personnel will have access to specifications/drawings during the production of items to verify drawing requirements are being met and recorded on Work order.
- 4.3.3 Production will stamp process areas on work order to identify process steps to be performed in accordance with specification. Stamps used to indicate this process will be REQ.(for required process) and NA stamp for (not applicable to part).
- 4.3.4 Drawings/ Specs/ Quality standards. All pertinent data provided by contractual vehicle is reviewed by Production/Contracting team to insure requirements are integrated into manufacturing process. Any discrepancies to data are handled in accordance with contractually specified requirements and QOP-83-01.
- 4.3.5 Contracting and Production personnel shall work together to order material and supplies to build FAT. Purchase orders are placed in accordance with QOP-74-02 – Purchasing Procedure.
- 4.3.6 All Purchase Orders will reflect the required specifications that material or processes are to be performed to and will show clear traceability to the work order or contract that said material or processes are ordered for. Purchasing will verify when placing an order that vendors can meet applicable specifications.

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- 4.3.7 Once Material is received in accordance with AOP-75- 04-2 and QOP-74-03, Production schedules work loads with Production team to begin work on Job.
- 4.3.8 Production team creates in process sheets/QDS for inspection for all jobs in accordance with QOP-82-04. In process sheets are created using customer supplied drawings to insure inspection points are correct.
- 4.3.9 When machined parts are being made, Contract Supplied Drawings are used to write programs that run parts on CNC Lathe and/or Milling Machines.
- 4.4 Contractual requirements.
 - 4.4.1 In the event there is a discrepancy in a contractual drawing that prevents Airtronics, Inc from performing in accordance with the Contract, a waiver deviation form DD 1694 shall be submitted to request waiver or deviation as applicable. This form is submitted to DCMA QAR for review and transmission to the applicable Government Contracting agency for approval.
 - 4.4.2 DCMA QAR and ACO will be notified of any work stoppage and included on all correspondence with Government Contracting Agency.
- 4.5 **In-Process Inspections.**
 - 4.5.1 During the manufacturing process Production Team and Quality will do in-process inspections as needed to verify product conformance to prints. (QOP-82-04)
 - 4.5.2 Material Certifications and Process Certifications are reviewed for compliance to applicable specifications.
 - 4.5.3 All part dimensions are measured before and after any processing done to a part to verify conformance.
- 4.6 **Final Inspections (FAI's)**

Final inspections are done 100% on all dimensional or test criteria called out on drawings by QA at time of final acceptance. (QOP-82-05), FAI's. The FAI is not complete until Airtronics closes all non-conformances affecting the part and implements corrective actions. Airtronics shall re-do an FAI for those affected characteristics and shall record the results.

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4.6.1 The Organization should conduct the following activities in support of FAI.

- Review documentation for the manufacturing process (e.g., routing sheets, manufacturing/quality plans, manufacturing work instructions, etc.) to make sure all operations are complete as planned.
- Review referenced exhibits supporting the FAI (e.g., inspection data, test data, Acceptance Test Procedures, etc.) for completeness.
- Review nonconformance documentation (if any), for completeness. NOTE: International Aerospace Standard 9131 may be used for guidance.
- Review material certifications for compliance, as applicable.
- Verify that approved Special Process sources are used (as applicable), and that the manufacturing planning/routing document calls out the correct specification.
- Verify that Key Characteristic requirements have been met, as applicable (see International Aerospace Standard 9103 for guidance).
- Verify part specific gages and/or tooling are qualified and traceable, as applicable.
- Verify that every design characteristic requirement is accounted for, uniquely identified and has inspection results traceable to each unique identifier.

4.6.2 FAT certifications report is presented to Government for final approval. This information includes, but not limited to, depending on contract requirements, the following:

- Contract document
- Work Order
- In Process sheets/QDS and /or AS9102 Rev A Inspection Forms **
- Material Certifications
- Special Process Certifications (Heat treat, Chem film, Plating, NDT, etc.)
- Airtronics Certificate of Conformance
- AS9102 REV A First Article Inspection Forms ***
 - Form 1 Part Accountability ***
 - Form 2 Material Specification ***
 - Form 3 Characteristic Accountability ***

*** Instructions for completing these forms are found in Appendix A of AS9102 Rev A.

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- 4.7 Partial or Re-accomplishment of First Article Inspection:
- 4.7.1 The FAI requirement, once invoked, shall continue to apply even after initial compliance.
- 4.7.1.1 The FAI requirements may be satisfied by a partial FAI that addresses differences between the current configuration and prior approved configurations. When a partial FAI is performed, Airtronics shall complete only the affected fields in the FAI forms.
- 4.7.1.2 FAI requirements may also be satisfied by previously approved FAI performed on identical characteristics of similar parts produced by identical means. When FAI requirements (partial or complete) are satisfied in this manner, identify the approved configuration in the index of part numbers on Form 1.
- 4.7.2 Airtronics shall perform a full FAI, or a partial FAI for affected characteristics, when any of the following events occurs:
- A change in the design affecting fit, form or function of the part.
 - A change in manufacturing source(s), process(es), inspection method(s), location of manufacture, tooling or materials, that can potentially affect fit, form or function.
 - A change in numerical control program or translation to another media that can potentially affect fit, form or function.
 - A natural or man-made event, which may adversely affect the manufacturing process.
 - A lapse in production for two years or as specified by the Customer.
- 5.0 **RECORDS**
- 5.1 [QOP-42-03](#) Control of Quality Records.