

**J.H. BUSCHER, INC.**

**STANDARD SPECIFICATION SS00Y Revision A**

**MATERIAL HANDLING**

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Written By:	Date:	Approved By:	Date:
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**REVISION STATUS and CONTENTS**

<i>Revision</i>	<i>Date</i>	<i>By:</i>
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A	3/5/15	KR

**Description of Change:**

*Nonconforming Material* SS00T now incorporated in this procedure. SS00T will be retired. Remainder of procedure is extensively revised – see history file. Changes include addition of Documents Section, classification of materials, references to nonconforming material, handling damage to components during shipping, routing and

storage. “Design Variation Report” referenced in Section 9 was called “Nonconformance Report”.

<i>Section</i>	<i>Description</i>	<i>Revision</i>	<i>Page</i>
1	Scope	A	2
2	Documents	A	2
3	Receiving	A	3
4	General Handling and Storage	A	3
5	Raw Material	A	4
6	In-Process	A	5
7	Shipping and Packaging	A	5
8	Limited Life Material	A	6
9	Nonconforming Material	A	6

## 1) SCOPE

The purpose of this specification is to establish procedures controlling material handling. Material is categorized and defined as follows:

- a. **Raw material:** material of identifiable chemical composition used to fabricate components. May be plastic, metal or elastomer.
- b. **Purchased Components:** items purchased to a MIL-SPEC or universal equivalent, or a vendor catalog product.
- c. **Limited Life Material:** Any item of category a or b that has a finite life span. A manufacturer's recommended life is not necessarily the same as ours.
- d. **In-Process:** any item, subassemblies or component in the process of being manufactured or tested.
- e. **Complete Inspected Product:** product that has successfully passed all testing and inspection, but not shipped.
- f. **Stocked:** material, components or subassemblies deemed acceptable by inspection, either here or at vendors.
- g. **Returned Customer Product:** any article, belonging to a customer, that is returned for evaluation investigation, repair or overhaul.
- h. **Nonconforming Material:** a component that does not meet JHBI or customer specifications, but may be usable with a modification, either internally or to a mating product.
- i. **Scrap:** material unusable except for demonstration or research. Must be identified.
- j. **Research:** any article or material involved in testing, but not part of the production process.

Any material will fall under at least one of these categories, but it is possible for an article to fall under multiple categories simultaneously. For example, a purchased component (b) used in research (j).

## 2) DOCUMENTS

Reference documents are shown in Table 1. The latest revision of any document is to be used unless otherwise specified.

<i>Document</i>	<i>Title</i>	<i>Published By</i>
Part 145	Repair Stations	Federal Aviation Administration
SS00Q	Quality Manual	J.H. Buscher, Inc.
SS00A	Order Processing	J.H. Buscher, Inc.
SS00C	Purchasing	J.H. Buscher, Inc.
SS00V	General Inspection Requirements	J.H. Buscher, Inc.
SS01J	FAA Repair Station Manual	J.H. Buscher, Inc.

**TABLE 1, Reference Documents**

### 3) RECEIVING

#### 3.1) Items Subject to Inspection

Upon receipt, the following items must be inspected:

- a. Raw material to be used on a product (Material used on tools or for research is exempt).
- b. Purchased components used on products, e.g. MS-type fasteners, O-rings, vendor catalogue parts.
- c. Articles received from vendors made to JHBI drawings or specifications.
- d. Articles received from vendors made to customer drawings or specifications at JHBI directive.
- e. Articles that have processed on a JHBI Purchase Order, e.g. anodize, passivation, heat-treat.
- f. Articles that have been reworked by a vendor per a JHBI directive.

It is possible that the vendor or a third party will have performed inspection. If so, the Purchase Order will identify source of inspection. Refer to JHBI Standard Specification SS00V, *General Inspection Requirements*, for acceptance criteria, inspection methods and default sampling rates.

#### 3.2) Customer-Owned Product

When customer-owned product is returned for repair, overhaul or evaluation, it is to be processed in accordance with the repair provisions of JHBI Standard Specification SS00A, *Order Processing*. If the requirements of the Purchase Order or Return Order dictate, the product may be subject to FAA Repair Station procedures as well. Refer to Standard Specification SS01J, *FAA Repair Station Manual*.

#### 3.3) Receiving Damaged Material

Upon receipt of material damaged during shipping, advise sender (vendor or customer) as necessary.

### 4) GENERAL HANDLING AND STORAGE

All materials at JHBI must have identifiable status, origin and traceability. By either location or accompanying documentation, any item can be classified in one the categories of Section 1.

#### 4.1) Location

Table 2 provides a guide to material location and storage. Any material, prior to inspection or evaluation, may be located in receiving. In process of inspection, it may be in the Inspection/Quality Department (unless specialized inspection is required).

<i>Material Category</i>	<i>Location</i>
Raw material	Inspection Room. Post-inspection, in material cabinet(s) with identifying number per 5.2.1.
Purchased components	Inspection Room. Post-inspection, in stock with identifying PN, or in parts pull for a Work Order.
Limited-Life Material	Stores, unless the nature of the material requires special condition, e.g. refrigeration.
In-Process	May be anywhere in inspection or on the shop floor, but must have identifying Work Order.
Complete Inspected Product	Shipping
Stocked	Store room
Returned Customer Product	Separate storage area for returns. Any in-process return must have accompanying Return Report per SS00A.
Nonconforming material	See Section 9.
Scrap	In the scrap cabinet or clearly rendered unusable or identified "SCRAP".
<b>Table 2, Material Location by Category</b>	

## **5) RAW MATERIAL**

### **5.1) Raw Material Purchasing**

General purchasing and Purchase Order directives are covered by JHBI Standard Specification SS00C, *Purchasing*. For all metals that are used in shippable product, we require a vendor provide a mill-traceable certification that includes chemical breakdown and country of origin. We are to reference a universally recognized material specification (MIL-SPEC, ASTM, AMS, QQ, etc.) on the Purchase Order whenever possible.

#### **5.1.1) Exceptions**

Material to be used in tooling or research projects does not require certification, unless the nature of the project requires material origin assurance.

### **5.2) Raw Material Lot Code**

When material has been received, it must be inspected to criteria either on the Purchase Order or per JHBI Standard Specification SS00V, *General Inspection Requirements*. Once successfully inspected, it is to be marked with the material lot number. This is the Purchase Order number, followed by a decimal point followed by the PO line item. For example, Purchase Order 980, line item 6 will be Material Lot Number 980.6 and so identified throughout its use in later components, or if shipped to vendors. This will ensure material traceability.

#### **5.2.1) Material Identification**

Marking of material is to be permanent and readily visible. For metal raw material, either a steel stamp or vibrating pencil marking is acceptable. If physical identification is not practical, lot identity can be recorded by circling the line item on a copy of the Purchase Order, and placing it with the material in a suitable container, e.g. a sealed bag.

### **5.3) In-Process Material**

Identity of material in process must be maintained. Lots are to be stored and handled in separate containers with attached copies of the material paperwork or the job Work Order, which will identify material per Standard Specification SS00A, *Order Processing*.

### **5.4) Rejected Material**

Material that fails inspection must be either:

- a. Returned to vendor as discrepant. See procedure for Material Disposition Report in Standard Specification SS00V, *General Inspection Requirements*.
- b. Use-as-is. The only time this permitted is when the failure is for dimensional discrepancy. For example, a Purchase Order calls for a 2" x 2" length of aluminum. The material as received meets all the chemical and called-for certification properties, but measures 2.005 x 1.994. This case is again covered by SS00V.
- c. Used for tooling or research, but not on a product.

### **5.6) Special Storage**

Raw material may have special storage requirements because of size, temperature or humidity requirements. If so, the storage area is to be selected with appropriate considerations.

## 6) WORK-IN-PROCESS

Assembly, fabrication, machining test or other work in process must be kept in containers or otherwise protected from environment, contamination, or physical damage. Containers must be suitable and clean. The Manufacturing Department is responsible for selection of containers and procedures for handling of work in process. Parts or subassemblies in process must be kept covered while work is not being done.

### 6.1) Special In-Process Provisions

If product concerns require handling procedures beyond routine work-in-process – such as particle counting, antistatic bags or special storage requirements, the Engineering or Production Control Departments will note or reference the directives on the Work Order.

## 7) SHIPPING AND PACKAGING

### 7.1) Priority

Customer requirements for packaging and labeling take precedence over this document. The Work Order or Repair Order will contain or reference any specific customer requirements.

### 7.2) Procedure

Unless otherwise specified, the Production Control Department is responsible for all shipping activities.

- a. Individual components (unit) will be packaged in separate bags and boxes unless otherwise specified.
- b. Units will be placed in new clean plastic bags.
- c. Most JHBI products, < 2 lbs., can be packaged in a single wall corrugated box, 200 lb. test maximum. Box size must allow minimum of 1 inch space between largest unit envelope and inside of box. For unit weight greater than 2 lb, the Production Control Department will specify the shipping means.
- d. Unit is to wrapped in bubble pack to fill 80% minimum of the shipping box. NOTE:  
Styrofoam/polystyrene packing material must not be used in a product container, but may be used in a larger shipping box.
- e. Accompanying documentation such as test reports, Data Sheets and certifications are to be in a separate sealable plastic bag. If paperwork is unique to the unit, it will go in the product box.
- f. Box will be closed and sealed. Each product box must be provided with a label including the following information:
  - JHBI Part Number
  - Customer Part Number, if applicable
  - Serial Number, if applicable
  - “MADE IN USA”
  - If applicable: “Patented in USA and Foreign Countries.”
- g. If more than a single unit is to be shipped, product boxes will be placed in a corrugated shipping box. Product boxes are to be closely packed in the shipping container, with allowance for packing material. Either styrofoam pellets or sheet bubble pack may be used.
- h. As directed by the Work Order, any customer-required documentation will placed in a sealable plastic bag or envelope in the shipping container. Paperwork is to be placed on top of packaging material.
- i. Shipping box is to be closed and sealed.

- j. Shipping label with JHBI return address is to be placed on outside of box. NOTE: Do not stick label over slick or glossy surfaces or tape. Cover shipping label with clear tape.
- k. Place a copy of packing list in a clear envelope on side of package with so shipping address is visible. Retain a copy of the packing list for our records.

## **8) LIMITED LIFE MATERIAL**

Some materials, such as epoxy resins, have a shelf life which is limited by the manufacturer. The manufacturer may also require storage at a temperature other than ambient and or control of humidity. In these cases the Engineering Department will responsible for writing procedures to ensure that the proper storage requirements are met.

### **8.1) Part Number Identifier**

If a component is a limited life material, it will be identified in the product Parts List and the Master Parts List component description with the added designation \*LLM\*. Example: “PN LV999, Epoxy Resin, Necromix 5000 \*LLM\* ”.

### **8.2) Expiration Date Label**

When stored, be it in the regular stock room or environmentally controlled area, the material or container must be clearly marked with the expiration date.

### **8.3) Exceptions to Recommended Date**

The recommended shelf life of a limited life material may be exceeded provided:

- a. Material has been stored according to manufacturers requirements.
- b. A sample subjected to a material test to verify that physical properties have not been degraded. The Engineering Department will be responsible for the test procedure, acceptance criteria and test record retention.
- c. Material container must be labeled to show the extension of the expiration date.

## **9) NONCONFORMING MATERIAL**

Per Section 1 i, Nonconforming Material is defined as a component that does not meet JHBI or customer specifications, but may be usable with a modification, either internally or to a mating product. If, in the judgment of the Engineering and Manufacturing Departments, the component meets these criteria and does not otherwise interfere with form, function or product interface, a Design Variation Report may be written that documents the nature of the nonconformance and the modifications required.

### **9.1) Exclusions:**

Scrap, which is to be identified and isolated as described as Table 2, and discrepant material as discussed in Standard Specification SS00V, *General Inspection Requirements*, are both – by definition – nonconforming. However, neither of those material categories are covered by this provision.

## 9.2) Design Variation Report

If any product, detail part or subassembly does not conform to Specification Requirements, but can be used as-is or with a modification of itself or a mating part, a Design Variation Report (DVR) shall be used. Table 3 lists the entries and responsibilities for the entries of a DVR. Unless required by the customer to be a printed copy, entries may be in an electronic file only. An example of this would be an oversize nozzle that requires an oversize housing bore or a component manufactured ahead of a pending revision change. The fit between housing and nozzle would be as called for in the final assembly, but the individual components might be out of drawing tolerance.

### 9.2.1) Format

The DVR entries will be logged out in a spreadsheet titled DVR\_LOG.

<b><i>Entry</i></b>	<b><i>Description</i></b>
DVR Number	DV, followed by the last two digits of the year, followed by three alphanumeric characters (0-9, then A-Z, excluding I and O), logged out in order, similar to the detail part number system
Date	The date the report is filed.
Product	The part or end product(s) affected. There must be Serial Number traceability.
Nonconformance	Any information necessary to document the nonconformance. Information may exceed spreadsheet cell capacity. If so, reports, e-mails, memos, or other documents may be referenced.
Parts Affected	Serial Numbers of end products with nonconformance. Note this may be entered as TBD pending the determination of the SNs, but an entry must be made as soon as possible.
Notification Required?	A Yes or No entry goes here. Requirements vary. Customer notification of part or process deviation may be required even if there is no violation of the customer envelope.
Notification Ref	If notification is required, reference the document or correspondence (e.g. form, e-mail date) with the customer.
By Whom:	Initials of whomever in Engineering or Manufacturing initiated the NCR. Approval can granted only if the modifications maintain design integrity, strength, mating component fit, and do not negatively impact performance.
Approval:	Initials of the Quality representative, who must pass judgment on report format and notification. This approval may also be from the responsible Project Engineer or Program Manager, but is an approval report format rather than technical merit.
<b>Table 3, Design Variation Report Entries</b>	

### **9.3) DVR Example**

*DVR Number:* DV1401A (Year 2014, 01A means the 20th Design Variation of the year)

*Date:* 09/25/14

*Product:* B4XYZ

*Nonconformance:* Housing PN FDXYZ nozzle bore ID is .0015 over max. Machine 2 FDZZ5 nozzles to mate, must maintain .0007 to .0010 diametral interference per BKXYZ assembly (Interface dimensions are maintained).

*Parts Affected:* SNs 22, 23

*Notification Required:* Yes

Notification Ref: 9/26/14 e-mail to Fred Jones, ABC Aerospace

*By Whom:* JS (Approves technical/design integrity)

*Approval:* AB (Approves format, customer notification if required and completeness)

### **9.4) DVR Work Order Reference**

There must be a reference made on the Work Order to the DVR number, with applicable SNs. In the example of 9.3, a written addendum on the Work Order would note SNs 22 and 23 are covered by DVR1401A. This can be written by the Manufacturing, Engineering, Quality or Production Control Departments.

### **9.5) Responsibility**

The Manufacturing, Engineering or Quality Departments may initiate a Design Variation.