CiES Inc.
Quality Assurance Manual

Approved By:
Title: *Aviation Safety Inspector*
Date:

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This Quality Assurance Manual (QAM) is submitted to the Federal Aviation Administration (FAA) for information and Regulatory Compliance requirements. This Manual includes instructions for the design, development, and manufacture of Technical Standard Order (TSO) authorized articles for various model aircraft under the authority of Title 14 Code of Federal Regulations (14 CFR).

This manual has been developed by the Quality Department with the intent and purpose of providing quality controls as required by Federal Aviation Regulations. This manual provides FAA verification policies and procedures for the design, development and manufacture of FAA Technical Standard Order (TSO) authorized articles.

This manual establishes and maintains a quality assurance system to ensure compliance and conformance with FAA-TSO Articles manufactured by CiES Inc. for use on certified aircraft or as detail components of an aircraft assembly.

Changes to this QAM shall not be implemented without prior FAA approval.

CiES Inc. shall notify the FAA, in advance, in writing if manufacturing and/or the facility is relocated or expanded to other locations. Prior to manufacturing FAA-TSO parts at a new location, the new facility must be evaluated and approved by the FAA.

CIES may not transfer any FAA issued TSOA to any another party.

Any deviation to the TSO MOPS must be requested of the FAA ACO in writing and include a proposed Equivalent Level of Safety (ELOS).

Revision History

Changes in Quality System: Any changes to the Quality System will be approved by the FAA Manufacturing Inspection District Office (MIDO) prior to implementation.

CiES Inc. will immediately notify the FAA MIDO, in writing, of changes that affect inspection, conformity, or airworthiness of approved articles including criticality or added/new complexity of articles manufactured.

Revision	Date	FAA	Change Summary
New	November	Yes	New Part 21 requirements
A	September, 18, 2014	Yes	Change of Address and revised Org Chart
B	October 15, 2014	Yes	Revised A3 and A4, Added Section M5, Revised Section H in entirety, added Section Q,
C	March 4, 2015	Yes	Added Section R, Added Transfer and Deviation to Preamble. Revised A3, A4, B2, B3, B4 C1, Section C Note, C4 , C6, F1, F5, H2, I4, J6 L3 Section) Added B5, C7 & C8
D	June 10, 2015	Yes	Added Section S.
E	March 24, 2016	Yes	Added Accountable Manager to Appendix A, Revised Section C Flowdown to include sub-tier suppliers, Added C1h.
F	February 06, 2018	Yes	Added Section T Issuance of 8130.3 Authorized Release Document (ARD), Revised Section S to include the issuance of an 8130.3 in replacement of a Certificate of Conformance or C of C, Added Section T Oversight responsibility to Quality Control Manager. Added Christine Sandsness to Appendix B Inspection Stamp Log.

Acronyms

ACO	Aircraft Certification Office
ASL	Approved Supplier List
ARD	Airworthiness Release Document
ELOS	Equivalent Level of Safety
FAA	Federal Aviation Administration
MIDO	Manufacturing Inspection District Office
PAH	Production Approval Holder
TSO	Technical Standard Order
PO	Purchase Order
RMA	Return Merchandise Authorization

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Section A Design Data Control

A1 A current copy of all drawings for FAA-TSO Approved articles will be controlled by Quality Engineering Department and made available to manufacturing and inspection personnel.

A2 Design data is filed by Drawing or Document Number with the latest revision available to manufacturing and inspection personnel. CiES Inc. STCs, design data, Manufacturing records, and quality control records are kept on file in the Document Configuration Control Department. Original design documents are filed electronically and are kept in a separate location. See Appendix D

A3 All CiES design changes and modifications are identified, documented, reviewed and appropriately approved through the process incorporated in the CiES Major/Minor document CC-MM-2840-002 at latest revision.

a. Minor design changes in a TSO article will be submitted to the local ACO within 180 days of the change.

b. Major design changes will require a new application for TSO to be submitted to the local ACO to obtain FAA approval. Major changes will not be incorporated in the production before FAA approval. Major changes will require new Model / Type and part numbers.

A4 No design data changes may be made by any party outside of CiES Inc. See Appendix D for how external parties can participate in design changes.

Section B Document Control

B1 All Quality system documents, data, and current approved changes will be managed and properly stored in a central file maintained by CiES Inc.'s Document Configuration Control Department.

B2 Only approved data will be issued to Shop Personnel and Quality Control personnel for the fabrication and inspection of parts produced under the authority of the CiES, Inc. TSO or other FAA approvals.

B3 The responsibility for currency of approved production design data (i.e. shop travelers, inspection records, forms and tags) rests with the Quality Department.

a. The Quality Manager will insure only approved data is used for production of FAA TSO Articles.
b. All approved data used in the FAA- TSO or other approval process will be checked out from the Document Configuration Control Department.
c. All approved data used to manufacture a FAA TSO article will be kept on a remote server in a folder named "Approved" with supplier read only capability.
d. All drawings and data, which are obsolete (affected by superseding data, or FAA airworthiness directives), will be promptly removed from manufacturing and inspection areas and placed in the "Archive" folder on the remote server .

B4 All design changes and modifications are identified, documented, reviewed and appropriately approved through the CIES Inc. Major/Minor document CC-MM-2840-002 at latest revision .

B5 See **Appendix D** for Documentation Control Process Flow Diagram.

Section C Supplier Control

CONTRACT REQUIREMENTS: Our Quality system will ensure all articles furnished, including sub tier suppliers, conform to contract and or PO requirements.

FLOWDOWN: CiES Inc. will ensure access to, and cooperation of, all involved facilities in the supply chain. Our Approved Suppliers will have a current copy of this manual. We are responsible for supplier adherence to the requirements flowed-down through the supply chain. We do not delegate responsibility under our production approval to a supplier.

C1 Approved Suppliers on the CiES Approved Supplier List (ASL) will have an Internal Quality Control system, and will:

a. Have completed a Vendor Approval Form,
b. Have a designated company source inspector (as identified in the ASL) who has completed an annual vendor training, with the CiES Quality Manager or to another recognized quality standard.
c. Hold material certifications and Certificates of Conformance from sub-tier suppliers for 5 years.
d. Provide finished article Certificates of Conformance to CiES
e. Maintain all applicable files and records for five years for CiES produced articles
f. Allow access to CiES to have their facility audited by CiES on a yearly basis and/ or have a demonstrated ability to conform to CiES' design date and to fulfill the Purchase Order (PO) and design data requirements.
g. Have submitted a component and have achieved a conforming First Article Inspection per Section C4 of this manual to Approved data and contract requirements.

C2 Receiving Inspections assure that supplier items, purchased items, raw materials and contract furnished articles or processes meet the contract or Purchase Order (PO) requirements and conform to approved design data.

a. All FAA- TSO suppliers are listed on an Approved Supplier List (ASL). This list defines Sub-contractors/suppliers that have the ability to fulfill the PO and comply with approved data for articles.
b. Suppliers listed on the ASL must allow their facilities and sub-tier supplier facilities to be accessed by CiES Inc. auditors and FAA personnel.
c. Each supplier is to report to CiES Inc. If an article has been released from that supplier and subsequently found not to conform to the applicable design data.

Note: FAA notification is required 10 days prior if manufacturing is sub-contracted to a supplier located outside the USA.

Section C Supplier Control (con't)

C3 All incoming shipments will first be verified as from our approved suppliers; as noted on company ASL. These supplied items, which support manufacture and or assembly of FAA- TSO articles, will be inspected for visible external damage, conforms to approved design data, proper packaging, marking, certificate of conformance, contract requirements etc., as appropriate to the shipment received.

a. Reports of unsatisfactory conditions will be documented as required and held by Quality Control.
b. Review of documented unsatisfactory conditions will increase our company supplier evaluation and surveillance to a more frequent basis. An on-site visit may be determined necessary which will verify:
    1. Certificates of Conformance received with each shipment
    2. On-Site Supplier evaluation with/ without rejection history
    3. Suppliers may be added or removed from the company ASL.

C4 **First Article Inspection**, CiES Inc shall use a representative item from the first production run of a new or revised part or assembly to verify that the production processes, production documentation and tooling are capable of producing parts and assemblies that meet all documented requirements.
a. This process shall be repeated when the following changes occur: engineering changes, manufacturing process changes, tooling changes or inspection procedures.
b. This inspection is identified as a First Article Inspection and will be accomplished to the standards listed in AS9102.

C5 CiES Incoming Inspection Forms are created for each component or assembly per the CiES Inc "Inspection Process" document and inspect the items for the following:

a. Dimensional conformance for critical dimensions indicated on the incoming inspection form.
b. Compliance with drawings and/or PO requirements
c. Conformance to all design data
d. Certificate of Conformance is supplied
e. Test Reports
f. Certifications
g. Shelf-life requirements, if required.
h. Special storage or handling requirements, if required and note on attached sheet of the PO.

Section C Supplier Control (con't)

C6 For All shipments, from an Approved Supplier, that conform to design data, Quality Control receiving inspector will remove the packing sheet and compare it with their copy of the PO and inspect the shipment per CiES Inc. Inspection Process" in **Appendix E**.

Note: If the shipment includes a new part, a new supplier/vendor or there is a revised part for which a design change is made and/or part numbers/revision utilize C4 - First Article Inspection..

C7 Suppliers are required to notify CiES of all changes to manufacturing processes or in their quality system or processes. This requirement will be stated on CiES PO's and is part of the Approved Supplier Criteria in **Appendix E**

C8 Suppliers may be delegated to perform inspections on completed components based on the criteria established in **Appendix E**

C9 After acceptance of incoming shipments, the inspector will stamp, initial/sign and date the First Article Inspection Form (where applicable) invoice/packing-list/ Certificate of Conformance or PO (The Signature, Stamp / Certification Log will identify each inspector).

C10 When discrepancies are encountered during inspections, the receiving inspector will "tag" the material or shipment "Non-Conforming"

a. Identify the discrepancy
b. Notify the Production Manager & President
c. Fill out an NCR Log Entry.
d. Rejected articles are placed in a segregated storage area until corrective action is taken by the supplier or subcontractor.
e. Utilize the CiES MRB process for disposition of parts that do not meet approved design data.

Section D Manufacturing Process Control

D1 CiES Inc. is engaged in the manufacture of TSO authorized articles for aircraft as an FAA Production Approval Holder. The manufacture of these approved articles is in conformance with approved drawings and specifications.

Inspection characteristics required by design data and FAA- TSO requirements are to be identified and incorporated in the Shop Traveler Instructions. This includes contracted and sub-contracted services and processes provided by our approved suppliers. The Shop Traveler Instructions or revisions to the Shop Traveler Instructions will be approved by the Quality Control Manager. The Quality Control manager will notify the FAA of these instructions or changes

Shop traveler compliance will be confirmed by either an inspection stamp or by the inspector's signature/initial and date on the shop traveler record of the item inspected. Disapproval will be signified by the word "REJECTED" printed or stamped on the component or an appropriate Rejected Item 'RED" tag attached. The component is placed in the Non-Conforming Bin with a the Name of the person, Purchase Order Number or Shop Traveler Date rejected and Reason for rejection.

D2 Sub-contractors for special processes and their quality control system will be reviewed by the CiES Inc quality control department to approve the facility's manufacturing method to assure it meets quality control standards described in this manual.

D3 The Quality Manager or delegate is responsible for informing company inspectors of current changes in engineering drawings, specifications and quality control procedures.

D4 CiES Inc. has a current log of approved inspector's names and signatures, along with a stamp impression of the inspection employee's assigned stamp. This information is recorded in the Approved Signature, Stamp and Certification Log.

D5 Only the Quality Manager or their delegate has approval to appoint inspectors.

D6 All inspectors shall be aware of the detail requirements of the inspections, the manner of acceptance or rejection and the appropriate design and inspection data. They are also responsibility for staying current with the information within this Quality Manual.

Section D Manufacturing Process Control (con't)

D7 Traceability is maintained from raw material to the finished article by requiring material certifications from sub-tier and prime suppliers for all delivered articles component and sub assemblies ensuring design data is met. Finished assemblies/sub-assemblies are either individually serialized and/or delivered to CiES in numbered batches. Records of all delivered batches are kept by CiES for five years and material certifications from sub-tier suppliers are to be kept by CiES prime suppliers for five years and made available to CiES on demand.

D8 Non- Deliverable Manufacturing Software Procedures
CiES utilizes an internally developed Software Program to load the Aerospace Electronic Hardware (AEH) onto the AEH Device and to check operational parameters of the circuit card prior to final assembly. This process and software are controlled through an Altered Item Document and the Acceptance Test Procedure

a. The manufacturing Software is controlled through the Documentation Procedure set forth in Appendix D.

b. CiES TSO articles produce a simple electronic output, therefore MOPS are confirmed compliant with a calibrated Digital Multi Meter and or a calibrated Analog Oscilloscope. All Non Deliverable Software changes are classified as MINOR.

Section E Inspection & Testing

E1 CiES Inc. inspectors will determine that each completed article conforms to the design data and is safe for installation on type certificated articles. Inspectors shall:

- Inspect all articles to drawing, specification requirements, incoming inspection form or shop traveler
- Witness any test including any inspections at our facility
- Witness any test at our supplier facility necessary to determine Compliance.

E2 Inspectors shall have access to FAA approved data and specifications when inspecting and witnessing acceptance tests on FAA-TSO articles.

E3 Inspection and test procedure documents are controlled documents, which are maintained and filed internally at CiES. These documents are functional tests that qualify the operational parameters of the TSO'd item. These functional tests insure that the manufactured TSO'd item meets its Minimum Operational Performance Standard (MOPS) and as such, are design documentation that is revision controlled by the FAA–ACO.

Inspection and Test Procedure documents:

a. CI-TP-2840-001 Acceptance Test Procedure (ATP Fuel Level Transducer)
b. CC-TP-2840-002 Acceptance Test Procedure Fuel Level Sensor

E4 All inspection records described above and the record of disposition shall be maintained for at least five (5) years and made available to the FAA upon request.

Section F Inspection, Measuring, and Test Equipment Control

F1 Inspection, Measuring and Test Equipment (IMTE) are calibrated, using standards, which are traceable to the National Institute of Standards and Technology (NIST). A master listing of all IMTE, inspection tools, production jigs, fixtures, templates, etc. (including a list of calibration reference standards), which are depended upon as media for article acceptance will be maintained by the Quality Control Department. The master IMTE listing will include the identification of calibration intervals and will be available to the FAA upon request.

F2 Tools, gauges and test equipment which become inaccurate shall be tagged "Unserviceable." The reason for the tool unserviceable state shall be identified on the tag.

F3 Special tools, shop aids, master gauges or molds manufactured by CiES Inc or purchased from a vendor will be verified against drawing requirements.

F4 Inaccuracy of tools, gauges, test equipment, and molds identified during periodic inspections shall be reported immediately by the Quality Control Department to the Production Manager. In the event that out-of-tolerance measuring and test equipment is found, CiES Inc. will determine the impact on previously accepted material and take action to correct any deficiencies and review all shipments to assure no escapes.

F5 Scales, shop aids and measuring devices used for acceptance to design data will be certified for accuracy to NIST or other accepted standard when purchased. Scales, shop aids and measuring devices will be certified for accuracy at intervals 6 months until a history of the equipment is documented. They will then be certified yearly until deemed unserviceable.

- All inaccuracies are noted and determined serviceable or unserviceable.
- Serviceable certifications are indicated by a signature, date and acceptance stamp label applied to the item.
- Unserviceable tools are identified as such, removed from inventory and secured to prevent usage.
- Master Parts will be inspected yearly to insure they meet type design.

F6 Outside Supplier Fixtures: CiES Inc. will conduct yearly inspections of outside supplier fixtures using a master part.

Section G Inspection and Test Status

G1 The inspector shall affix a stamp or signature along with the date on the Shop Traveler indicating acceptance or rejection of the process step(s), the components and the finished article. In the case of a rejection, the cause shall be noted in the comment block.

G2 Rejected components shall be marked with a red tag. Final disposition of rejected articles will be noted on the Shop Traveler and held in a secure area.

G3 If improper use of the Inspection Authority is discovered, the quality manager has the authority to reject the article. This Authority will be revoked and documented in the Signature, Stamp and Certification Logs. All revoked stamps are to be secured and out of service for a minimum of 3 months.

Section H Nonconforming Article Control

H1 All TSO manufactured articles are required to meet FAA approved drawings and specifications. Completed TSO articles incorporating components or material not meeting type design will processed through a MRB System and documented on a MRB Action Form.

H2 Material Review Board (MRB) system will be utilized to make determination if material, assemblies, or subassemblies can be utilized in a completed TSO article. This includes assemblies or sub assemblies that do not meet drawing requirements due to an incomplete or incorrect fabrication, but may be reworked to meet the design data and specifications.

The President is the Chief of the Material Review Board (MRB).

Members of the MRB Board must be made up of representatives from:

- Engineering - Engineering
- Production - General Manager or Production Manger
- Quality Assurance - Quality Assurance Manager

Only a MRB action may decide the disposition of materials or components to be used in any TSO articles.

The MRB Action will utilize the CIES Inc. Major/Minor document CC-MM-2840-002 at latest revision for disposition guidance.

It is preferable to have two board members meet to disposition parts however one member is adequate for an MRB action.

The MRB Action Form will record all actions taken by the review board and will be kept in a secure storage. The MRB Action Form will be attached to the invoice, packing slip, shop traveler or C of C or a combination thereof on which the MRB action is taken.

Section H Nonconforming Article Control (Cont.)

H3 All components to be utilized in the manufacturer of TSO Articles are evaluated to type design and if they fail to meet type design requirements the following applies:

- All non-conforming articles for use in TSO articles will be identified with a Red Tag see Appendix C and will be segregated from inventory.
- Dispositions
  - If received from a supplier they will be returned to that supplier.
  - Internally manufactured parts or assemblies may be reworked or scrapped and a MRB Action Form will be initiated to determine possible disposition per H2 of this manual.
- All scrapped articles at the CiES manufacturing facility will be mutilated to ensure the part unusable and cannot be brought back into type design.
- All "use-as-is" or rework may only be returned to production in conjunction with a design change, if and only if the rework does not bring the part back to type design. This design change must be submitted to the FAA ACO, per section A of this manual.

Section I Corrective and Preventative Action

I1 For corrective actions; implementing corrective and preventive actions to eliminate the causes of an actual or potential nonconformity to the approved design or noncompliance with the approved quality system, CiES Inc. will:

1) Review non-conforming articles in order to:
    a) Determine the root cause of non conformance
    b) Evaluate the needs for corrective action(s)
    c) Evaluate corrective action to ensure non conformance does not reoccur
    d) Specify alternative actions when corrections are not achieved
    e) Record the results of actions and make records available to the FAA.
    f) Review quality system to assure no other areas could be effected.

I2 CiES Inc's process is to log all nonconforming articles on a spreadsheet in order to track the part number, root cause analysis, action taken, and the reason for the nonconformance. The President will review this table monthly in order to ensure the comprehensive manufacturing processes continually produce articles that conform to its type design and are safe for operation. This monthly review and analysis will be recorded and the results presented to upper management.

I3 Preventive Actions; note the procedures for implementing preventive actions to eliminate the causes of an actual or potential nonconformity to the approved design or noncompliance with the approved quality system. CiES Inc. will:

1) Institute Preventative action will determine establish and define requirements:
    a) Determine potential nonconformities and their cause
    b) Evaluate corrective action(s) needed to prevent occurrence
    c) Determine impending actions needed in order to comply
    d) Record the results of all actions
    e) Review the effectiveness of any preventative actions
    f) Specify alternative actions when corrections are not achieved
    g) Record the results of actions taken including follow-up actions and make records available to the FAA.

I4 CiES Inc's will place non-conformities and their corrective and preventative actions in suppliers file and insure the supplier color reflects supplier status per **Appendix E**

Section J Handling & Storage

J1 Quality Control will be responsible for all storage and will ensure that all material is adequately protected from damage.

J2 Raw materials will be stored in a manner appropriate to their characteristics and in such a way that they may be readily accessible for production. Use “heat lot” control to avoid comingling.

J3 All materials will be tagged individually or in bins with an inventory tag (see example below). Parts will be secured and stored in order to assure protection, shelf life compliance and security.

Q.C. TAG –INVENTORY ID.	
QC NO. (PO # OR DATE REC'D)	
ROLL #	
WEIGHT	
DIMENSIONS	
Quantity	
SUPPLIER	
ITEM NAME/DESCRIPTION	

J4 The Production Manager shall maintain surveillance of the stock room and all storage areas for adequate materials for production.

J5 After final inspection, finished parts will be properly marked with when applicable, the part number. Finished parts are to be properly stored until use or shipped.

J6 The shop traveler will indicate a requirement to check expiration date of all adhesives and potting compounds

Section K Control of Quality Records

K1 CiES Inc. procedures account for all records generated to show compliance to the requirement of subparts K, including records generated throughout the supply system. We also control record storage to ensure against degradation of records and ensure availability of these records.

K2 Records to be retained should include, but are not limited to, inspection and test records, calibration records, supplier records, special process certifications, MRB records, and production travelers.

K3 Records will be legible, complete, and accurate. Storage media used for record retention will exhibit legible data, acceptance stamps, and required signatures.

K4 CiES Inc. will keep documents listed in K2 for at least 5 years. Type design files will be kept indefinitely.

K5 Obsolete records will be processed and shredded.

Section L Internal Audit

L1 CiES Inc. will conduct periodic reviews via Internal Audits as determined by the Quality Manager. The complete QAM Internal Audit process/procedure will be evaluated annually.

L2 Results of audits are reported to appropriate level of company management in order to establish all necessary quality system corrections.

L3 One department will be audited quarterly to assure compliance to this manual. The auditor will chosen from the quality department or one of the major departments whose function is not being audited.

L4 Each auditor will receive training on how to conduct audits.

L5 Each non-conformity will have a corrective action report and a root cause analysis performed to prevent reoccurrences.

See Internal Audit control log:

Area	Date	Findings	Cause	Action Taken	Comments

Section M In-Service Feedback

Service Difficulty Reports (SDRs)

M1 If in-service difficulties are discovered, they will be reported by CiES Inc. to the FAA ACO and MIDO. Written notification in a timely or prescribed manner utilizing an identifier number will be used to codify all communication with the FAA in regards to all in service difficulties

M2 CiES Inc. will report 14 CFR 21.3 conditions to the FAA ACO within 24 hours, with the exceptions of weekends and recognized holidays, after it has been determined that the failure, malfunction, or defect is required to be reported. CiES Inc. will also provide a copy of this information to the FAA MIDO.

Self Disclosure Reporting

M3 If in-service difficulties are determined to be an issue with an article, they will be reported to the FAA's geographic MIDO.

Corrective Action:
Reported nonconformities, from industry or our manufacturing process, are reported to FAA and corrective action will take place to ensure only safe and reliable articles leave our system.

Airworthiness Directives (ADs)

M4 In the event that an Airworthiness Directive is issued by the FAA, CiES Inc will immediately implement applicable changes, if any, to articles affected by the AD.

Note:
When appropriate, changes related to an AD, will be incorporated into the drawings and parts that are in stock and will be re-inspected and updated to ensure they meet the AD requirement.

Instructions for Continued Airworthiness

M5 If in-service difficulties are determined to require a change to the Instructions for Continued Airworthiness, those changes will be submitted to the FAA ACO for approval.

Section N Quality Escapes

Definition: Articles that have been released from CiES Inc's quality system that do not conform to the applicable design data or quality system requirements

N1 CiES Inc. will notify the FAA of any apparent quality escape, by contacting the local FAA MIDO. Initial notice of a voluntary disclosure may be submitted orally, by electronic means or by written hardcopy within 24 hours of the discovery of the quality escape, with the exception of weekends and recognized holidays. Oral notification will be followed by a written notification in a timely manner.

N2 Quality escape notifications will include the following information;

1. A brief description of the nonconforming article, including an estimate of the duration of time that it remained undetected, as well as how and when it was discovered.

2. Verification that the noncompliance ceased after it was identified.

3. A brief description of the immediate action taken after the nonconforming article was identified, the immediate action taken to terminate the conduct that allowed the quality escape and the department/area responsible for taking the immediate action.

4. Verification that an evaluation is underway to determine if there are any systemic problems and the corrective action steps necessary to prevent the noncompliance from re-occurring.

5. Identification of the person responsible for preparing the comprehensive corrective action.

6. A written report will be provided within 20 working-days from the initial report to upper management and the local FAA MIDO.

Section O TSO Article Part Marking

O1 CiES Inc. will permanently and legibly mark each TSO article with our company name, part number and FAA TSO per the example below.

Marking Example

CiES Inc.= Manufacturer.
XX XXXX XX-XXX = Part number per TSO Approved Drawing
FAA-TSO = 14 CFR Part 21
DATE of MANUFACTURE
PART NOMENCLATURE
UNIQUE SERIAL NEMBER
INPUT VOLTAGE REQUIREMENT

O2 CiES Inc. will coordinate with the local MIDO when we consider an article to be too small or impractical for the CFR part marking requirements; to be legibly marked.
Only those articles will be marked using a tag, container or other approved marking method. This method will allow CiES Inc. to place the information required, but will not fit, to be placed on a tag, installation manual or other approved location. The information that will fit on the article will be placed on both the article, and tag, container or other approved marking method. Articles that can contain all markings required will be marked.

O3 Any additional part marking information required by the TSO is included in the FAA Approved Installation drawing or document and will be provided or made available with the TSO article.

Section P Shipping / Export of Completed Articles

P1 All required documents will be sent with any shipment of completed articles.

P2 Before exporting articles to other International Countries, FAA AC21-2 and Bilateral Agreements will be reviewed for applicable requirements.

P3 All shipping documents are to be followed and completed according to shipping regulations. (i.e.: Customs Declaration and Dispatch Note, Certificate of Origin, Shippers Export Declaration, etc.)

Section Q Location and Change of Manufacturing Facilities

Q1 CiES Inc may choose to relocate it's manufacturing facilities outside the USA if the FAA finds no undue burden with supporting the offshore location.

Q2 CiES Inc must obtain FAA Approval before making any changes to the location of it's manufacturing facility(s).

Q3 CiES Inc. must notify the FAA in writing of any change to the manufacturing facility.

- The written notification will include the old and new address.
- The written notification will request a new TSOA for the new facility location.

Q4 CiES Inc. will modify this document to reflect the address change.

Section R Software Quality Assurance

R1 CiES Inc Hardware Configuration Plan is contained within the specific Altered Item Document for each Airborne Electronic Hardware (AEH).

R2 CiES Altered Item Document controls how the AEH is transitioned into the article at item subassembly production. The Altered Item Document lists the approved AEH and it's characteristic checksum value. The Altered Item Document controls the AEH loading procedure.

R3 CiES Inc. drawings reflect the software version in a placard on the component subassembly as well as within the AEH program.

R**4** All CiES AEH contained on a TSO item is to be checked by the appropriate Acceptance Test Procedure to insure correct operation.

R**5** CiES utilizes its procedures contained within the appropriate DO-254 Hardware Configuration Management document for all AEH changes

R6 CiES utilizes a controlled remote location for AEH program storage. This location is remote and secure and can be user controlled for read-only access. Updates to this file is controlled by the procedures in R5 and reflected in the Altered Item Document controlled by the TSO Item Master Drawing List.

R7 Acceptance Test Procedure Software is verified by independent and calibrated electronic tools (Oscilloscopes and Digital MultiMeters) not connected to CiES developed internal computer programs to verify AEH function.

Section S Rebuild or Altered TSO Article

S1 CiES Inc may rebuild or alter any article that it produces under it's TSOA. Articles that are acceptable for rebuild or alteration must have the following characteristics:

a. An intact article placard with TSO number.
b. Newer than 5 years old from date of manufacture by CiES, Inc., under FAA TSOA. Date of manufacture is listed on the placard and in the assembly records.
c. A legible P/N.
d. A legible S/N.
e. In the case of a sub-ass'y within the article, utilize the P/N and S/N traceable to company production or quality records.

Note: With P/N & S/N on an article or sub-ass'y, the date of quality inspection / acceptance can be determined from company production records.

S2 All rebuilt or altered articles must conform to the technical data approved by the Administrator.

S3 All rebuilt or altered articles must maintain the same assembly basic part number (as shown in the FAA TSOA) and serial number as the article had upon receipt. All articles rebuilt or altered will be part marked in accordance to 14 CFR 45.15 and applicable TSO requirements.

The Quality Control Manager with assistance from Production Manager will create a specific shop traveler for disassembly and assembly of Rebuilt or Altered Articles. Separate, distinct, and uniquely identified shop travelers will be used for the rebuilding or alteration of articles. The traveler will document the traceability to original manufacture, disassembly, cleaning, inspection, replacement of subcomponents, and testing of each article rebuilt or altered. The traveler will also indicate what data was used to inspect and test the article. The traveler used for alterations will indicate the FAA-approved design the article conformed to upon receipt, and what FAA-approved design the article is to be modified to. Travelers will be revised and controlled by the Quality Control Manager. All travelers will be retained by CiES, Inc. for 5 years after completion of rebuilding or alteration.

Section S Rebuild or Altered TSO Article (Cont.)

S4 CiES will provide all information required by Title 14 CFR 43.9 for rebuilt or altered articles. An ARD 8130-3 per section T utilizing Block 14 on the 8130-3 form will be provided with the article. The required information includes:

a. Return to Service.
b. Assembly part number;
c. Assembly serial number.
d. Assembly drawing number with revision level the article was rebuilt or altered to.
e. Production approval holders name
f. Production approval identification number;
g. Date of rebuild or alteration;
h. Name and signature of CiES, Inc. authorized to sign the ARD
i. Date of signature

S5 CiES will record incoming assemblies in the Rebuilt or Altered Articles log. CiES will note in the record the disposition of whole sub ass'ys or constituent parts.

S6 All parts for rebuilt, modified or altered articles (with its subcomponents) will be stored in individual containers within the primary container to further segregate individual articles from each other to prevent loss of configuration control.

a. At a minimum, an inventory tag will be used to identify the individual articles. The tag must be attached to the article but may be removed during rebuilding or alteration operations. The tag must remain in the immediate vicinity of the article at all times. The inventory tag will state the part number and serial number of the assembly, and either "Rebuild" or "Alter". The article and/or subcomponents will be physically separated from other similar articles when removed from the individual article containers in the performance of rebuilding or alteration.
b. If subcomponents of an individual article are physically separated from each other, additional inventory tags will be used to identify subcomponents removed from the area of the assembly.
c. This tag shall state the S/N of the assembly it was removed from and the applicable part number of the subcomponent. Any articles that are rejected during the rebuilding or alteration shall be handled per section H of this manual.
d. These containers are placed in a secure location labeled **Rebuild or Altered** with the following sub nomenclature:
    - Incoming / Disassembly
        - Repair
        - Inspect
    - Inspected - Ready to Use.
    - Completed

Section S Rebuild or Altered TSO Article (Cont.)

S7 Any component part of an acceptable article may be cleaned, inspected & repaired to conform to FAA approved technical data. Parts or Subassemblies will be labeled with CiES Inventory tags.

S8 An Altered or Rebuilt article may be made up of a combination of used and new parts as long as it conforms to FAA approved data and passes the article Acceptance Test Procedure.

S9 The applicable Acceptance Test Procedure will be utilized to qualify the final article prior to shipment.

Section T Issuance of 8130.3 Authorized Release Document (ARD)

T1 Selection, Appointment, Training, Management and Removal of Personnel who can issue an ARD for CiES Inc.

a. Selection - The personnel authorized for this duty and function shall have 36 months of experience in First Article and Final Assembly Inspection, 12 months of experience with Manufacturing processes utilized at CiES, 12 months of experience in the Development of Quality Control and Testing Procedures and the use of FAA-approved type design data.

b. Appointment – The personnel that meets the selection criteria will be appointed and listed as the Accountable Manager in this quality manual.

c. Training – The personnel authorized shall review and understand the latest revision of FAA Order 8130.21 “Procedures for Completion and Use of the Authorized Release Certificate FAA Form 8130-3, Airworthiness Approval Tag” The applicant will have taken and passed the FAA Online Course “Issuance of 8130-3 for Domestic and Export Approvals of Engines, Propellers, & Articles Only. Recurrent training through use of the FAA Online course listed above is required every 36 months and a record of course completion through the test results will be placed on file.

d. Management – The function will be audited annually by the Quality Control Manager to the Performance measures listed in FAA Order 8000.95 “Designee Management Policy” Volume 8 Chapter 6 and this record will be retained in the quality control file.

e. Removal of Personnel – If the designated personnel have been determined either through the audit process or through a specific action to not fulfill the obligations and requirements for this duty they will be removed from the duty and it will be re-assigned to a suitable candidate or the function will be terminated. This action will be transmitted to the MIDO within 24 hours.

Section T Issuance of 8130.3 Authorized Release Document (Cont.)

T2 CiES Inc.. will utilize FAA Form 8130-3, Authorized Release Document (ARD), to meet applicable requirements of Title 14, Code of Federal Regulations, Subpart L. CiES Inc. will comply with any applicable Bilateral Aviation Safety Agreements and applicable Special Requirements when exporting. CiES Inc. may utilize an ARD for domestic shipments for articles. An ARD will be utilized for all Return to Service articles." This removes "and conformity determination" (that is for prototype articles) and clearly states when an ARD is required or may be used.

T3 FAA Order 8130.21 "Procedures for Completion and Use of the Authorized Release Certificate, FAA Form 8130-3, Airworthiness Approval Tag" most current version will be utilized to properly fill out the Authorized Release Document for its intended purpose.

T4 Only the Accountable Manager is allowed to sign Block 13b and 14b on the 8130-3 Authorized Release Document.

T5 Only articles produced, rebuilt or altered by CiES under its TSOA may be issued with 8130-3 ARDs.

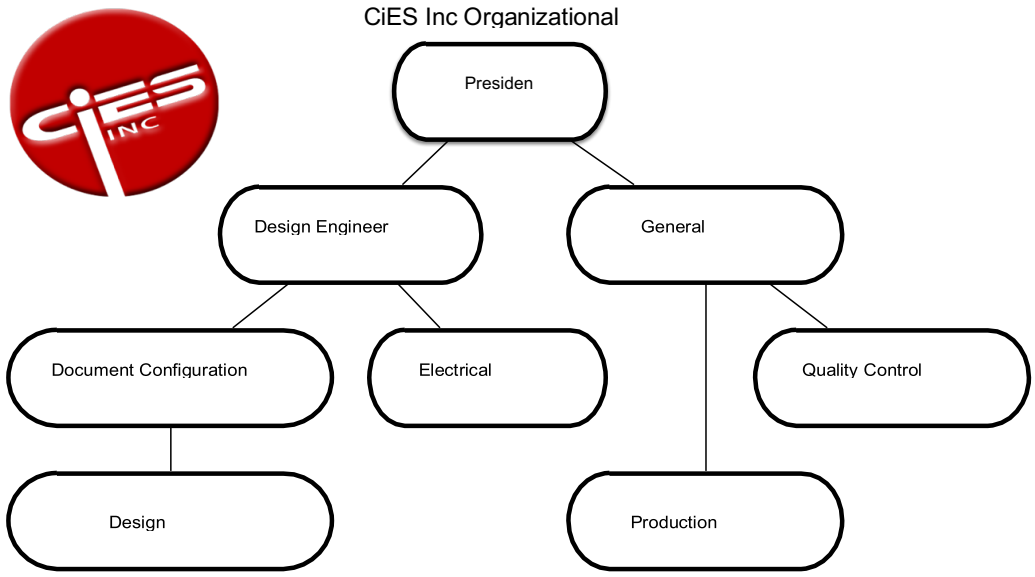
T6 Only articles produced, rebuilt or altered by CiES with an 8130-3 ARDs may occupy a shipping container for export. New production articles and Return to Service articles will not be shipped together and will not be documented on the same ARD.

T7 CiES Inc. will retain a copy of any signed FAA Form 8130-3 for no less than 5 years. CiES will retain all activity files i.e. selection, appointment, audit, training for this function for no less than 5 years

T8 Unlimited copies of an original Authorized Release Document previously issued for an article may be provided as requested. No original Authorized Release Document may be provided for an article that has already left the FAA-approved Quality System (CiES Inc. manufacturing facility) unless that article is returned to the FAA-approved Quality System under documented procedures, inspected, and determined to meet FAA-approved design. These articles may be considered "New" as long as no service time has been accrued. Documented procedures for Return to Service are to be utilized for "Used" articles. The reissuance of an ARD for typographical errors may be accomplished per the procedures found the latest revision of FAA Order 8130.21.

Appendix A Organization Chart

ORGANIZATIONAL CHART



Quality System Responsibilities:

Accountable Manager: Scott Philiben

The accountable manager is responsible In CiES Inc. organization for, and have authority over, all production operations conducted. The accountable manager will confirm that the procedures described in this quality manual required by § 21.138 are in place and CiES Inc. satisfies the requirements of the applicable regulations of subchapter C, Aircraft. The accountable manager will serve as the primary contact with the FAA.

President:

Sections L1 thru L4 and insuring organizational conformity to this FAA Approved Quality Manual, R

Quality Control Manager

Sections B1, B3, B4, C,D,E,F,G H, I, J, K, L, M, N, O, P, Q, S, T

Production Manager

Sections H1, J4, M3, Section I, O, P

Design Engineer Manager

Sections B5, O2, Section I, M

Document Configuration Control

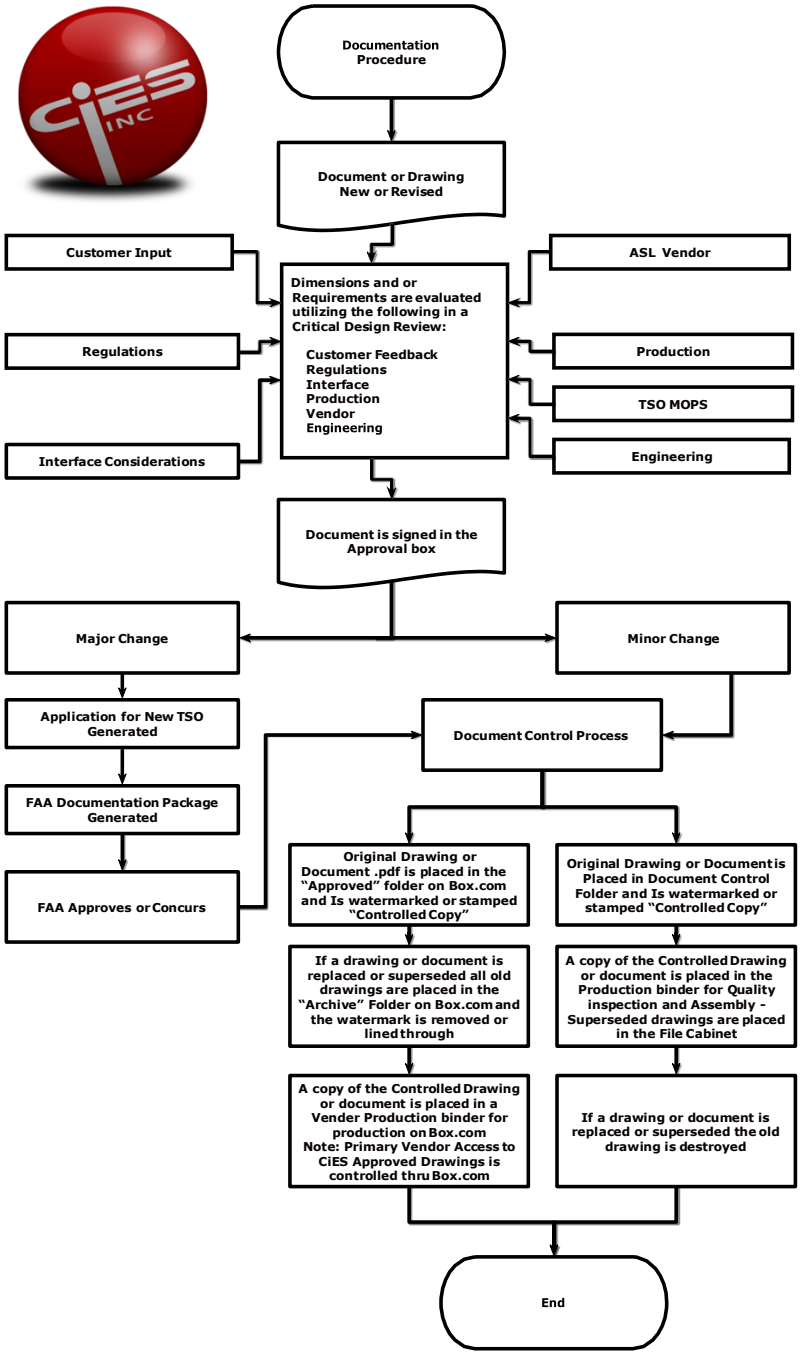
Sections - A1 thru A3, B1, B2, B4

Appendix B Inspection Stamp Log

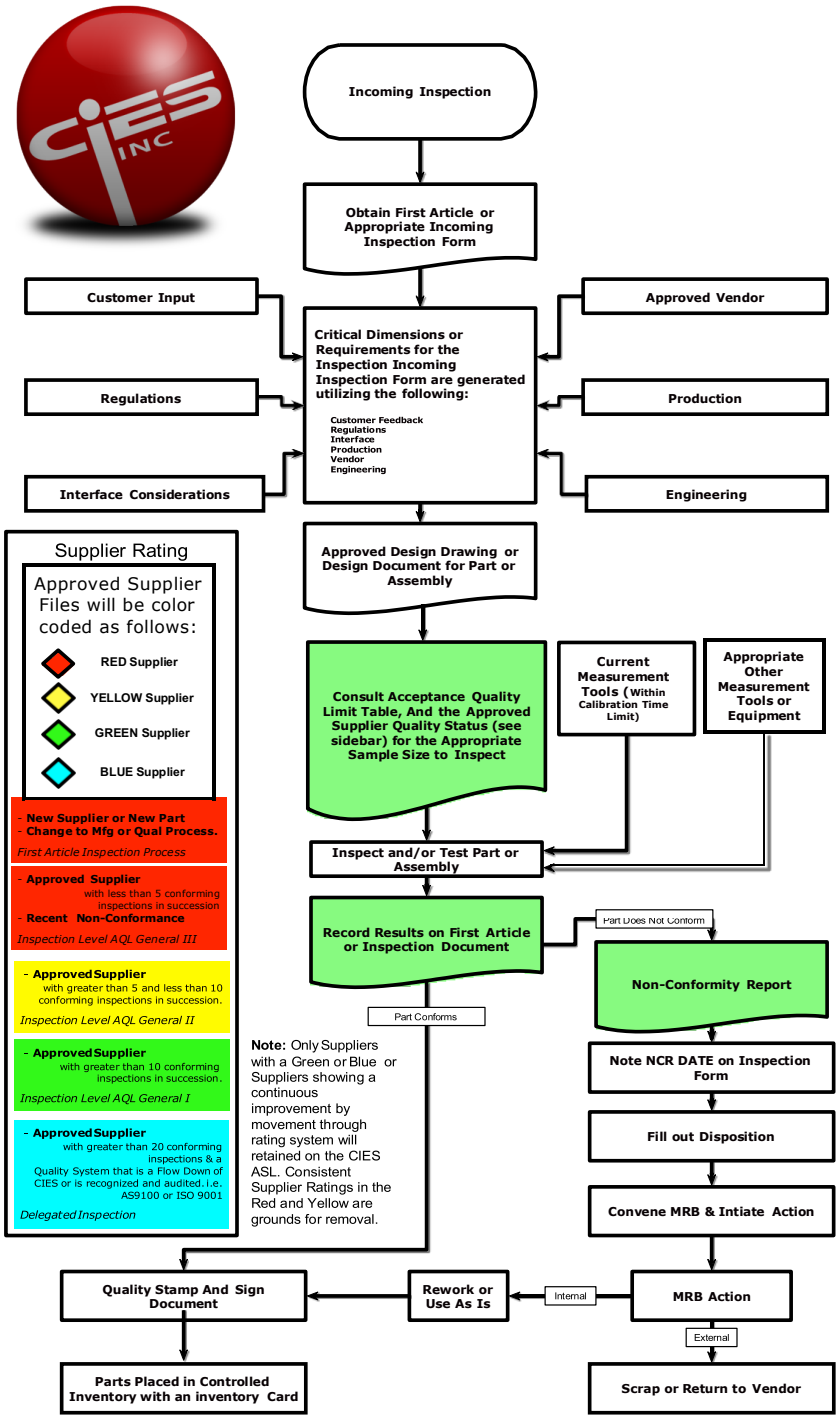
Name	Dept.	Stamp Impression/signature/initial
Scott Philiben	**President**	
Christine Sandsness	**Production**	

Appendix C Example of Rejected Item "Red" Tag

Appendix D Documentation Procedure



Appendix E Inspection Procedure and Supplier Rating



Appendix G Return to Service Log

Name	Dept.	Stamp Impression/signature/initial
Scott Philiben	**President**	