



U.S. Department
of Transportation
**Federal Aviation
Administration**

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November 14, 2018

Mr. Jack Brooks
Accountable Manager
Leach International Corporation
6900 Orangethorpe Avenue
Buena Park, CA. 90620

Dear Mr. Brooks:

This letter is to inform you that as of 11/14/2018, the Leach International Corporation Repair Station and Quality Control Manual, revision AL, dated 11/14/2018 has been reviewed and accepted as written.

Please place a copy of this letter in front of your manual.

If you have any questions/concerns, please contact me at the number listed above.

Regards,


Charles E. Johnson
Principal Maintenance Inspector

Quality Assurance Procedure

Repair Station and Quality Control Manual for FAA Approved Repair Station No. FJ3D503L

Signatures on file.

To prevent the unintended use of obsolete documented information, this document should not be used unless the user has verified this document is current. Current documents are available on the QMS SharePoint database.

DRAFT	M.Olaño	Leach International Corporation	
Manager, QS	M.Olaño		
FAA Accountable Manager	J.Brooks		
Supervisor, Repair Station	P. Sharma		
		DOCUMENT TITLE:	
		REPAIR STATION AND QUALITY CONTROL	
		MANUAL FOR FAA APPROVED REPAIR	
		STATION NO. FJ3D503L	
		DOC NO.	REV.
		512-0006-000-000	AL
		Release Date: 11/14/2018	SHEET 1 OF 63

DOCUMENT CHANGE HISTORY

REV	Page(s) Affected	DCN/Description of Change	Date	Initiator
AA	All	SEE EO 78112	09/16/2008	MS
AB	All	SEE DCN 0060	10/30/2009	MS
AC	All	SEE DCN 0144	02/19/2010	MS
AD	All	SEE EO 81047	04/25/2011	JG
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AH	All	DCN 0489	09/25/2014	J.Brooks
AJ	All	DCN 0562	04/22/2015	P.Sharma
AK	All	DCN 2016-110/ Update format to QAF-211 Rev C template; Title change for Accountable Manager from Manager, Quality Systems to Director of Quality; Name change from Leach International North America to Leach International Corporation; Added roles & responsibilities for Manager, Quality Systems; Title change from Manager, Quality Engineering to Principal Quality Engineer; Added EASA MAG Change 6 Requirements	10/25/2016	P.Sharma
AL	All	DCN 2018-200/Minor changes to the titles throughout the document, updated Org. chart	07/05/2018	P.Sharma

NOTE: Add rows as necessary

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1. PURPOSE

These manuals have been prepared in accordance with the current Code of Federal Regulation (CFR) and the policies of Leach International Corporation and set forth the requirements and policies of this Repair Station, which are to be observed by all repair station employees. Observance of this procedure will assure compliance with the requirements of 14 CFR Part 145 of the Code of Federal Regulation. This compliance is required to obtain and retain a Federal Aviation Administration Repair Station Certificate.

2. APPLICABILITY

These manuals applies to all repair station employees located at Leach International Corporation, physically located at 6900 Orangethorpe Avenue in Buena Park, CA 90620. The mailing address is 6900 Orangethorpe Ave, Buena Park CA 90620. The telephone number is 714-739-0770.

3. SCOPE

These manuals explain the operation of the Repair Station and the internal inspection system in detail, including continuity of inspection responsibility.

The general repair, overhaul, or alteration of products will be performed in accordance with the current CFR, manufacturer's data, drawings, specifications, and bulletins, or other technical data approved or accepted by the FAA for the particular product.

This repair station will not repair or alter any item for which it is not rated, and will not repair or alter any article for which it is rated if it requires technical data, equipment, materials, facilities, or trained personnel that are not available.

The technical library, this Repair Station Manual (RSM) and Quality Control Manual (QCM) are required for the operation of this repair station, and will be maintained in a current status at all times.

All Repair Station Personnel on the RSM/QCM organizational chart, responsible for the repair station effort, will be provided immediate intranet access to controlled electronic copy of these manuals. Repair Station Management is responsible for seeing that all supervisory and inspection personnel have access to and thoroughly understand the manuals' contents, and adhere to their provisions.

The performance of any repair, alteration, or required inspections for an air carrier or commercial operator having a continuous airworthiness program under 14 CFR, Part 121, 125, or 135 will be performed in accordance with the requirements of 14 CFR Part 145.

4. RECORD RETENTION

Records established to provide evidence of conformity to requirements and of the effective operation of the quality management system shall be controlled in accordance to QAP 2.3 Data Retention.

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5. REFERENCE DOCUMENTS

<u>Document Number</u>	<u>Document Name</u>
512-0000-000-000	Quality Management System Manual
512-0006-001-000	Capability list for FAA approved repair station no. FJ3D503L, Leach International Corporation
512-0006-002-000	Repair Procedure for Returned Goods requiring Return to Service Tag
512-0006-003-000	Repair Station Training Program Manual FAA Approved RS
512-0006-EASA SUP	EASA Supplement to FAA 14 CFR, Part 145 Repair Station Manual/Quality Control Manual
512-0010-000-000	Repair Station Forms Control Manual
512-0024-000-000	Post Delivery Activities
512-0026-000-000	Training Program
QAP 3.16	Electrostatic Discharge (ESD) Control Program
552-0245-000-000	Procedure for Control of Test Equipment Software/Data Acquisition Software
ENG 003	ECR/EO Process
FAC 000	Total Productive Maintenance
MAT 7.5.5.002	Stockroom Material Control
OPR 015	Creation and Control of Manufacturing Routings
OPR 017	Production Handling for Work-in-Process
QAD 00037	Procedures used in FAA Approved Repair Station No. FJ3D503L and Manufacturing Operations
QAD 00039	FAA/EASA Repair Station Back-Up Responsibilities
QAD 00046	Steps for Personnel Entering into Repair Station (RS)
QAI 303	Control of Age Sensitive Material
QAP 1.1	Quality Policy
QAP 1.8	Identification and Traceability
QAP 1.9	Internal Audits
QAP 2.1	Engineering Documentation Control
QAP 2.3	Data Retention
QAP 3.15	In-process and Final Inspection
QAP 4.1	Monitoring and Measuring Resources
QAP 5.7	Receiving Inspection
QAP 6.1	Control of Nonconforming Outputs
QAP 6.3	Corrective Action
QAP 6.1.3	Control of Scrap Material
QAP 7.5.1.004	Current Materials - Maintain BOM in Syteline
QAP 9.0	Trade Compliance Program
MRL	Master Records List
OPR 030	Technical Data Transfer
TC-LCH-WI-003	Technical Data Transfers
TC-ESL-POL-100	Esterline Global Trade Compliance Policy
TC-ESL-REQ-100	Esterline Global Trade Compliance Requirements

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6. DEFINITIONS/ACRONYMS

Term	Definition
CA	• Corrective Action
CAMP	• Continuous Airworthiness Maintenance Program
CFR	• Code of Federal Regulations
CHDO	• Certificate Holder District Office
ESD	• Electrostatic Discharge
FAA	• Federal Aviation Administration
FAR	• Federal Aviation Regulations
FSDO	• Flight Safety District Office
LIE	• Leach International Europe
M&TE	• Measurement & Test Equipment
MSC	• Material Service Center
NA	• Not Applicable
OEM	• Original Equipment Manufacturer
PCD	• Product Control Drawing
PMA	• Parts Manufacturer Approval
QAD	• Quality Assurance Directive
QAI	• Quality Assurance Instruction
QAP	• Quality Assurance Procedure
QCM	• Quality Control Manual
Red Flags	• Any unusual circumstances that indicate a party to transaction is prohibited end-user or Defense Technology / Defense Articles are destined to a prohibited end-use location. Special care should be taken to prevent transactions with entities involved in proliferation of weapons of mass destruction
RMA	• Return Material Authorization
RSM	• Repair Station Manual
RSTM	• Repair Station Training Manual
SUP	• Suspected Unapproved Part
TC	• Type Certificate
WIP	• Work In-Process

NOTE: Add rows as necessary

7. ROLES & RESPONSIBILITIES

Reference Section I "Organization" of the Repair Station Manual for roles/duties and responsibilities.

Role	Responsibilities
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Esterline Employees	<ul style="list-style-type: none"> Maintain full compliance with all applicable laws and regulations that protect and support the national security, foreign policy, and commerce of the United States and other countries in which Esterline operates
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NOTE: Add rows as necessary

8. RSM/QCM MANUAL CONTROL SYSTEM

The RSM and QCM will be available by access to the company intranet and on the company web site (www.esterline.com). If the website copy is unattainable, please email Jack.Brooks@esterline.com to obtain a copy by email. Hard copies may be printed but are considered uncontrolled. Repair station personnel must verify that any hard copy they are using is of the current revision before initiating any repair station activities. This may be accomplished by verifying the revision available on the company intranet. CHDO is provided by the hard copy. Obsolete hard copies shall be either destroyed or removed from repair station to prevent usage.

8.1 RSM/QCM AUDITS

Supervisor, Repair Station will perform an audit of the company intranet and website monthly to verify that the posted manuals are current. A record of the audit will be made documenting the revision posted on the intranet website, the revision available at Quality Management Systems, the revision posted on the internet website, the name of Supervisor, Repair Station and the date performed will be documented on form MSC-F-032 (See Forms Manual 512-0010-000-000). The audit record will be maintained in the RSM/QCM information binder retained in the MSC. Records of these audits will be retained for minimum two years.

8.2 RSM/QCM REVISION SECURITY

The FAA Accountable Manager/Repair Station Manager will assure that the current manuals are available on the company intranet in secure PDF file format.

8.3 FAA REVISION NOTIFICATION

Any changes to Repair Station and Quality Control Manual will go through the Quality Management Systems process and the final draft will be sent to FSDO by FAA Accountable Manager/Repair Station Manager or designee for FSDO review. After FSDO's review and acceptance the final draft will complete the process to be formally released. The FSDO will be notified by email that the revision has been released and a hardcopy for review will be provided via U.S. Mail within 5 business days. Upon receiving the Acceptance letter from FAA, it will be placed in front of final released document and the FAA Accountable Manager/Repair Station Manager/Designee shall remove the obsolete version from the Intranet and company website and post the new revision.

8.4 APPROVED RSM/QCM TRAINING

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Training will be provided to personnel requiring access to this manual to assure they can access all relevant sections of the manual and competency shall be demonstrated by observing their ability to do so. The training shall be performed at the workstation to assure that the software is available to view the manual. Records of this training shall be maintained within Human Resources department as described in the FAA Approved Repair Station Training Manual (RSTM) 512-0006-003-000. Repair Station Management is responsible for seeing that all personnel under their supervision have access to the RSM/QCM and adhere to its provisions.

8.5 RSM/QCM REVIEW

Repair Station Management and personnel responsible for Repair Station effort, must read the procedure and periodically review its contents in order to maintain familiarity with its current provisions. Any repair station personnel who, in the performance of their duties, identifies a needed change in these manuals shall contact the FAA Accountable Manager/Repair Station Manager. Supervisor, Repair Station will have these changes and revisions found necessary incorporated into the manuals, produced in final form, and delivered to the FAA Accountable Manager/Repair Station Manager for coordination with the FAA FSDO. The FAA Accountable Manager/Repair Station Manager will approve and sign the RSM/QCM.

The RSM/QCM will be revised in its entirety under a single revision letter and date. All pages will carry the same revision date. Asterisks or bars will be placed in the margins of changed paragraphs to identify changes. Change notifications will be documented and stored to indicate the changes and nature of the changes. In cases where the manuals and FAR undergoes major changes, requiring extensive changes to the RSM/QCM, it is permissible to annotate "complete revision" and forego the asterisks or bars. A change notification record should be documented to indicate the nature of the complete revision.

8.6 REFERENCED PROCEDURES

Procedures referenced in the RSM/QCM, and any procedures referenced in those procedures essential to the operation of the repair station, shall be provided to the FSDO for review. Revisions to these referenced procedures shall also be provided to the FSDO within 5 business days. Any revisions determined to be noncompliant to the FARs by the FAA will require immediate revision to attain compliance with the FARs.

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REPAIR STATION MANUAL

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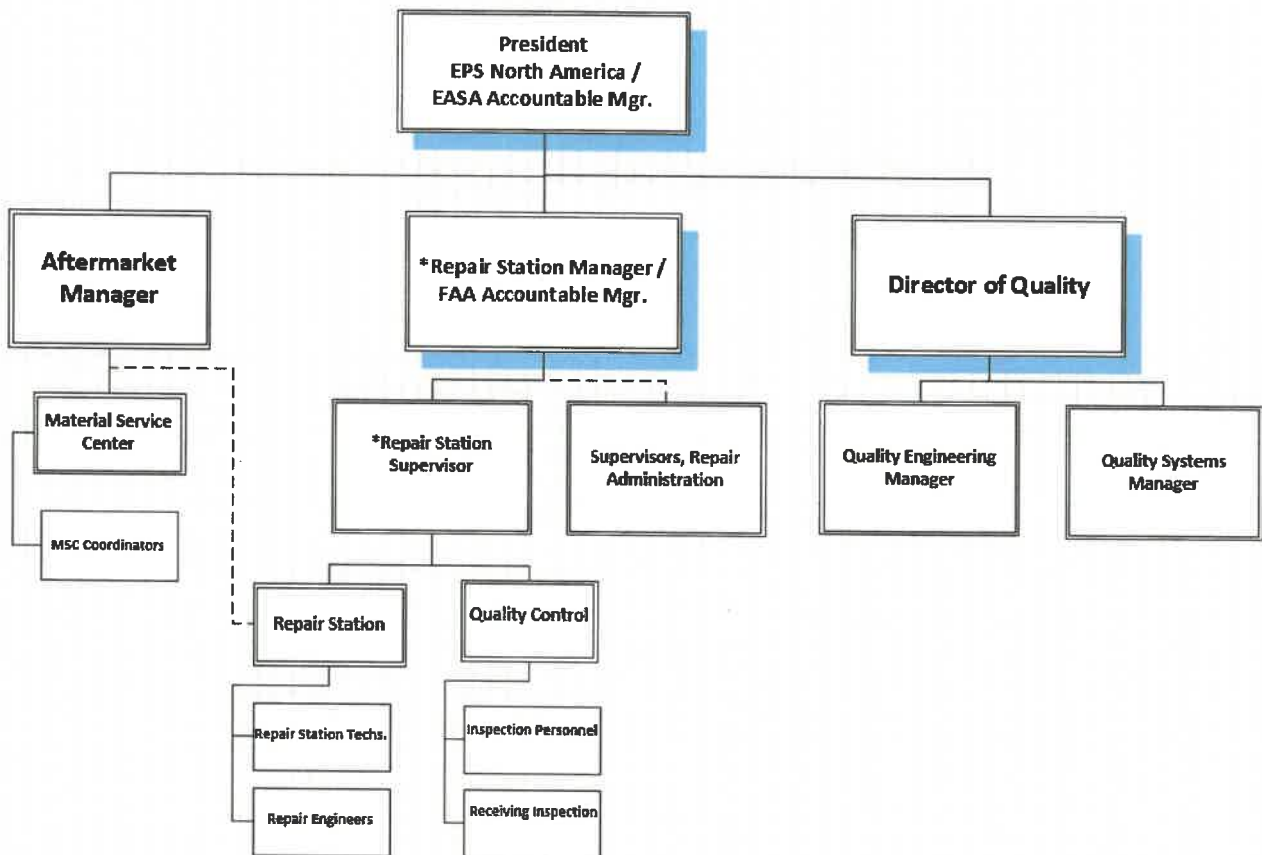
SECTION I
ORGANIZATION

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ORGANIZATION CHART



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See Repair Station Roster for actual names

Note: () denotes those persons in management authorized to act on behalf of the repair station. All personnel holding a Part 65 Airman Certificate (repairman) report to the Repair Station Supervisor for maintenance, inspection, airworthiness, and return to service activities.*

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Solid lines represents the oversee relationship on directing the work performed under the repair station/Dotted lines represent administrative reporting functions only.

DUTIES AND RESPONSIBILITIES

FAA ACCOUNTABLE MANAGER/REPAIR STATION MANAGER

The FAA Accountable Manager/Repair Station Manager is responsible for the overall operation of the Repair Station

The FAA Accountable Manager/Repair Station Manager is responsible for providing adequate plant facilities, i.e., equipment, material, and personnel for operation of the Repair Station in compliance with applicable Code of Federal Regulation. This includes compliance with design requirements and the procedures specified herein, as appropriate, to process items received, repaired, replaced or delivered by the repair station.

The FAA Accountable Manager/Repair Station Manager duties and responsibilities are to:

1. Supervise and direct the activities of the Repair Station Personnel as indicated on the organizational chart. Ascertain that Repair Station work is performed to established workmanship standards, and applicable specifications.
2. Determine the proper maintenance of all equipment, supplies and services to properly process Repair Station repair components/items.
3. Provide the final completion of and obtain repairman signatures on the Returned Goods and Product Analysis forms, and comply with the requirements herein to satisfy FAA Repair Station Certification.
4. To ascertain that adequate firefighting equipment is available at the repair station.
5. To establish standards to ascertain that adequate safety precautions are observed.
6. To establish procedures to determine the need for original and recurring training of personnel consistent with the work to be performed.
7. Serve as primary contact with the FAA, unless otherwise delegated.
8. Provide QA personnel and equipment to support the Repair Station operations, and to assure compliance with the procedures specified herein.
9. To approve and maintain the RSM and QCM in accordance with the requirements of the FAA Part 145 regulations.
10. Assure the proper maintenance of files of complete Repair Station Routers in such a manner that the file pertaining to a specific repaired item can be readily located for review
11. Submit proper reports of any serious failure, malfunction, or defect via web-site <http://av-info.faa.gov/sdrx/> in accordance with 14 CFR Part 145 as referenced in the Forms Manual.

The duties of the FAA Accountable Manager/Repair Station Manager may be delegated to qualified individuals as necessary; however, such delegation does not relieve the FAA Accountable Manager/Repair Station Manager of these overall responsibilities.

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MANAGER QUALITY SYSTEMS

The Manager, Quality Systems is responsible to the Director of Quality for the overall operation of the Quality Systems functions.

The Manager, Quality Systems duties and responsibilities are to:

1. Schedule and perform audits of the repair station to assure compliance to the procedures and requirements.
2. Providing support to responsible technical managers for the development of solutions to audit observations.
3. Primary responsibility for control of calibration functions, for maintaining shelf-life control and Scrap parts handling
4. The completion of audit reports.

The duties of the Manager, Quality Systems may be delegated to qualified personnel as necessary; however, such delegation does not relieve the Manager, Quality System of these overall responsibilities.

QUALITY ENGINEERING MANAGER

The Quality Engineering Manager is responsible to the Director of Quality for the overall operation of the Quality Engineering functions.

The Quality Engineering Manager duties and responsibilities are to:

1. Review MRR (Material Rejection Report) and performs trend analysis to assure appropriate corrective action is taken to resolve any system major product non-conformance.
2. Supervise the stamp control functions per QAP 1.8
3. Primary responsibility for control of technical data.
4. Coordinates the Supplier Quality functions.

The duties of the Quality Engineering Manager may be delegated to qualified individuals as necessary; however, such delegation does not relieve the Quality Engineering Manager of the overall responsibilities.

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REPAIR STATION TECHNICIANS/PERSONNEL

The Repair Station personnel/technicians are directly responsible to the Manager, MSC/Supervisor, Repair Station for the following operations. Personnel consist of Operators, and support personnel. They are responsible to:

1. Perform the repair functions and ascertain that all Repair Station work is performed in compliance to established workmanship standards, and applicable specifications.
2. Provide continuity of repair sequence and assure completion of such when personnel shift or assignment changes occur.
3. Ensure that no defective or un-airworthy piece parts are installed in any product or unit released by the Repair Station.
4. Ensure proper identification of all products.
5. Ensure that rejected and unserviceable products are handled in such a way as to prevent their re-use as serviceable products.
6. Utilize all practices, standards, and techniques, as approved the repair station, in performing maintenance in accordance with approved data and the RSM/QCM.

INSPECTION PERSONNEL

The Inspection personnel are directly responsible to the Quality Engineering Manager for the following operations:

1. Perform the Inspection functions and ascertain that all Repair Station work is performed in compliance to established workmanship standards, and applicable specifications.
2. Ascertain that all in-process and final inspections are properly performed on completed work before it is released to service, and that the inspection and maintenance records, reports and forms, required for such release, are properly executed.
3. Provide continuity of inspection, and assure completion of required inspections when personnel shift or assignment changes occur.
4. Ensure that no defective or un-airworthy piece parts are installed in any product or unit released by the Repair Station.
5. Ensure proper identification of all products.
6. Ensure that rejected and unserviceable products are handled in such a way as to prevent their re-use as serviceable products.
7. Make monthly checks on all inspection tools and test equipment located in the In-Process Inspection and Final Inspection areas to determine that the calibration due date has not been exceeded.

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RECEIVING INSPECTION PERSONNEL

The Receiving Inspection personnel are directly responsible to the Manager, MSC/Supervisor, Repair Station for the following operations:

1. Perform Final Acceptance of all incoming material and supplies.
2. Make monthly checks on all inspection tools and test equipment located in the Receiving and Verification Inspection areas to determine that the calibration due date has not been exceeded.
3. Ensure proper identification of all products.
4. Ensure that rejected and unserviceable products are handled in such a way as to prevent their re-use as serviceable products.
5. Provide continuity of inspection, and assure completion of required inspections when personnel shift or assignment changes occur.

SUPERVISOR, REPAIR STATION

Supervisor, Repair Station is responsible to the Accountable Manager/Repair Station Manager, for the operation of Repair station and supervises the repair or overhaul of repairable components. Supervisor, Repair Station duties and responsibilities are to:

1. Review and approve all repair and test data generated for the repair prior to approving 8130-3 tag.
2. Sign and stamp all required Repair Station documentation and Return to Service Tags per 14 CFR Part 145.
3. Ensure that no defective or un-airworthy piece parts are installed in any product or unit released by the Repair Station.
4. Ensure proper identification of all products.
5. Ensure that rejected and unserviceable products are handled in such a way as to prevent their re-use as serviceable products.
6. Supervise and direct repair station personnel performing the repair functions. Ascertain that all Repair Station work is performed in compliance to established workmanship standards, applicable specifications/approved data, and the requirements of the RSM/QCM/RSTM.
7. Provide continuity of repair sequence and assure completion of such when personnel shift or assignment changes occur.
8. Perform Final Inspection of all parts being returned to service. Final Inspection Repair Station personnel must be certified under 14 CFR Part 65.
9. Is responsible for controlling, bonding, issuing, and maintaining logs on the Operations stamps.
10. Responsible for maintaining the repair station roster. Changes to the roster will be incorporated within 5 days.
11. Responsible for maintaining a historic record of RSM/QCM revisions.

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12. Supervisor, Repair Station has been delegated authorization to mark operations as 'N/A' (not applicable) per OPR 017 for routers, on specific returns, when they are not required at the discretion of the Accountable Manager.
13. Supervisor, Repair Station is responsible for assuring that the training schedule is reviewed and that training is conducted when required.
14. Back-Up responsibility for control of Technical data and control of Calibration functions.

The duties of Supervisor, Repair Station may be delegated to qualified individuals, as deemed necessary; however, such delegation does not relieve Supervisor, Repair Station of these overall responsibilities.

SUPERVISOR, REPAIRS ADMIN.

The Supervisor, Repair Administrative is responsible to the FAA Accountable Manager/Repair Station Manager for the administrative functions only

1. Oversight the administrative functions for all components and goods.
2. Staff and support required for repair station administrative activities
3. Manage the task of ensuring that repair station personnel comply with 14CFR 121.377 Duty Time Limitation requirements
4. Perform other administrative duties required within the repair station.

The duties and responsibilities of, Supervisor, Repair admin. is strictly administrative

REPAIR ENGINEER

The Repair Engineer is responsible to Supervisor, Repair Station for the repair engineering functions.

1. Defines the sequence of operations by creating, releasing and controlling Repair station routers.
2. Helps perform failure analysis, tolerance studies, and participates in the troubleshooting/root cause/corrective action process for repair station.
3. Reviews and writes assembly and process procedures for product repair.
4. Documents repair process requirements by creating product repair specifications.
5. Provide engineering evaluation as required on the MSC-002 returned Goods Analysis sheet.

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MSC COORDINATORS

The MSC Coordinators are directly responsible to Aftermarket Manager for the following functions. They are responsible to:

1. Respond to customer e-mail, fax or telephone correspondence and review purchase orders.
2. Receive Repair Station return goods to repair station.
3. Issue returns authorization numbers and generate job orders.
4. Create and distribute for signature, 8130-3 Airworthiness Tags.
5. Ship repaired units back to the customer for Repair Station.
6. Communicate with customers regarding "Beyond Economic Repair" and part disposition issues for Repair Station.
7. Receive and inspect packaging of all repair station returned products in the MSC department
8. Unpack repair station returned products and review any non-conformance information supplied by the customer. Enter information related to new receipts into ERP system
9. Submit documentation and non-conformance information to MSC coordinator
10. Move repair station returned products to initial work stations for processing
11. Performs miscellaneous support functions for MSC department as needed

AFTERMARKET MANAGER

The Aftermarket Manager is responsible for overall operation of MSC (Material Service Center)

1. Supervise and direct the activities of MSC through the personnel indicated on the organization chart. Assure the maintenance of all records, supplies and services necessary to properly process MSC items.
2. Assure the proper maintenance of files of complete Material Service Center Routers in such a manner that the file pertaining to a specific repaired item can be readily located for review.
3. Schedule and prioritize workflow in the Material Service Center.

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SECTION II

PERSONNEL/REPAIR STATION ROSTER

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PERSONNEL/REPAIR STATION ROSTER EMPLOYMENT SUMMARIES

REPAIR STATION ROSTER

The listing of personnel responsible for compliance with this procedure is maintained by Supervisor, Repair Station and is available for review. This repair station roster shall list management personnel, supervisors, Repair Station inspection personnel, and those individuals authorized to perform final inspection and/or approve an article for return to service (repairmen). Repairmen alone have the authority to sign off on final inspection and maintenance release. This repair station roster shall include the name and title, certification type and number and authority and must be signed or approved by the Accountable Manager. Supervisor, Repair Station will be responsible for maintaining the repair station roster, which must be revised to reflect the termination, reassignment, change in duties or scope of assignment, or addition of any personnel. Human Resources will notify the Supervisor, Repair Station when Repair Station Personnel have been on leave of absence or medical leave for more than 1 year. These personnel will be removed from the Repair Station. Changes to the repair station roster will be incorporated within 5 working days. Revision of the repair station roster will be accomplished by issuance of a newly dated roster as applicable. FAA Accountable Manager/Repair Station Manager will notify FSDO within 5 working days after the release of newly dated repair station roster. Previous versions of the repair station roster(s) will be maintained for a minimum of 2 years on-site.

RETURN TO SERVICE AUTHORITY

The approved repairmen are authorized to return to service parts for which the repair station is rated after alterations, overhauls, and repairs have been completed. Inspection forms and FAA forms must be signed with each repairman's full name in ink. A certified repair station that chooses to use repairman to meet the applicable personnel requirements must certify in a format acceptable to the FAA. Each person recommended for certification as a repairman is employed by the repair station and meets the eligibility requirements of part 65.101

EMPLOYMENT SUMMARIES

The employment summaries of all persons on the required repair station roster responsible for compliance to this procedure are maintained by Supervisor, Repair Station and are available for review upon request. The employment summary must contain enough information on each individual listed on the repair station roster to show compliance with the experience requirement of 14 CFR 145.151, which states that repair station personnel must have the training, knowledge, and experience to perform maintenance, preventive maintenance, or alterations authorized by the repair station certificate. As a minimum the employee summary must include: 1) Present title, 2) Total years' experience and type of maintenance work performed, 3) Past relevant employment with names of employers and periods of employment, 4) Scope of present employment, 5) Type of mechanic or repairman certificate held and the ratings on that certificate.

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SECTION III

OPERATIONS – HOUSING, FACILITIES, EQUIPMENT, DATA AND MATERIALS

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OPERATIONS

GENERAL OVERVIEW

The repair station tests, repairs, and overhauls products listed in the FAA approved Capability List. For a complete list of repairable products see the capability list, 512-0006-001-000, maintained by Quality Assurance. The document is available at the company web site (www.esterline.com) as a PDF file. The center of repair station operations is located in the MSC. Parts initially received at the receiving dock are brought to the MSC in their original packaging and placed on the receiving shelf. Items too large or heavy to be placed on the receiving shelf may be placed next to the shelf on the floor. MSC personnel open the packaging, check for identification and damage, review all accompanying paperwork, and enter the parts into the system. Routers are generated for each receipt and the part(s) is (are) routed to the shop floor for preliminary visual inspection, preliminary inspection (functional test), analysis, and repair. Certified Repairmen perform final inspection by inspecting repaired parts and reviewing paperwork to ensure parts are acceptable for return to service. A certified repairman will then approve the item for return to service by signing a FAA form 8130-3, Authorized Release Certificate. The parts are returned to the MSC for out-processing and then moved to the shipping area for packaging and shipment. The instruction 512-0006-002-000 (Repair Procedure for Returned Goods requiring return to service tag 8130-3) details the repair station's operations which describes how the maintenance is to be performed, where it would start, and how it progresses through the entire repair cycle for an approval for return to service.

PRODUCTS RECEIVING POLICY

Products returned to the MSC, for repair are received as noted below.

Products in warranty, which can be economically repaired, will be authorized for repair and processing in accordance with the router. The letter "R" will suffix date codes applied on the repaired products. The suffix letter "T" will signify tested only and found acceptable upon return.

Products deemed not economically repairable, or out of warranty, will be withheld from further processing pending MSC, and/or customer disposition.

GENERAL TEST REQUIREMENTS

All functional checks, and repair, overhaul, and test shall be performed in accordance with the latest revision of the technical data and requirements, in the sequence planned on the specific repair station router.

Repair Station personnel will be trained to be familiar with the methods, procedures and equipment required to assure conformance to requirements and airworthiness of articles processed.

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WORK ORDER

The MSC will enter receipt by Returned Material Authorization Number (RMA) in the MSC Database. A file containing customer documentation received will also be established. All available information about the returned goods are entered into the MSC database. This includes the FAA Repair Station number, RMA number, customer name, date of receipt, Purchase Order number (if applicable), part and model numbers, warranty information, etc. The MSC database is used to generate a MSC Analysis form, MSC-010 (See Forms Manual), which accompanies the parts throughout processing. A MSC Router or Overhaul Router is prepared by the MSC that identifies the progressive steps necessary to verify the reason for return and to perform any repair necessary to repair the part. As a supplement to the routers, detailed repair instructions are contained in the FAA approved document 512-0006-002-000, Repair Procedure. Generic MSC Routers are available for each product line and a specific Overhaul Router is available for the 9207-10296 primary trim relay. Repair Station routers are printed on light green paper stock to facilitate identification. The returned goods and associated paperwork are issued to the appropriate work center to begin processing.

RECORD OF WORK

The MSC Analysis form, MSC Router or Overhaul Router (as applicable), and all other documentation, generated to provide a record of all work performed by the repair station, will be maintained for a period of at least ten years in accordance with QAP 2.3. The records are maintained in the MSC onsite two years minimum. Thereafter records will be archived and stored at a commercial offsite document storage facility for the remainder of the required years.

PRELIMINARY INSPECTION

Products received in the MSC for repair will be given a preliminary inspection per section I of the QCM.

INSPECTION FOR HIDDEN DAMAGE

The preliminary inspection will not be limited to the failure identified by the customer, but includes a thorough and searching inspection for hidden damage in all visible areas of the subject product per section I of the QCM.

PROGRESSIVE INSPECTION

Progressive Inspection of products received in the MSC for repair will be performed per section I of the QCM.

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REPAIR, ALTERATION AND OVERHAUL ACCESSORIES AND APPLIANCES

The MSC Analysis form, the MSC Router or Overhaul Router, and the associated test data for each product provide a complete record of work accomplished. The specific revisions of drawings and procedures used in the repair or alteration of product are those revisions in effect at the date noted on the MSC Router next to the specific operation. All components used in the repair shall be recorded on the MSC Trace Log, MSC-003 (See Forms Manual), which shall remain with the repair documentation to provide traceability of materials used.

HANDLING OF PARTS/PRODUCTS

All items or products undergoing repair or alteration in the repair station shall have the product parts segregated and in containers in order to assure that all parts of the same unit(s) are kept together. Suitable trays, bags, and protective covers (as required) are to be provided to the shop areas to assure maximum protection of all products. During handling of parts, if for any reason, a person believes any part is not an approved part, (SUP - suspected unapproved part), it should be reported to management/supervision for reporting per section III of the RSM. Reasons for suspicion of non-approval may include findings such as a different finish, size, color, improper (or lack of) identification, incomplete or altered paperwork, or any other questionable indication. Personnel handling aviation articles always need to exercise caution not to damage the articles. Parts labeled as ESD sensitive shall be handled in accordance with QAP 3.16, Electrostatic Discharge (ESD) Control Program.

TAGGING AND IDENTIFICATION OF PRODUCTS

The documentation accompanying the products shall identify the status of the products at all times. Parts and Products in the Stock Room shall be labeled for identification per MAT 7.5.5.002 Stockroom Material Control. The MSC Router or Overhaul Router allows identification of the last operation completed, the current operation, and that performance of all of the prior operations was found acceptable for product in work-in-process. Nonconforming material shall be recorded as documented QAP 6.1, Control of Nonconforming Outputs.

PRODUCT FINISHING

Plating, painting, and finishing are accomplished in areas segregated from the assembly areas.

PRESERVATION OF PRODUCTS

Products are preserved in accordance with acceptable industry standards. To afford suitable protection against humidity, extreme temperature, dust, rough handling or other

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damage, product will be preserved by wrapping in suitable containers, plastic bags, and/or rigid boxes containing suitable shock absorption materials.

SHELF LIFE

The Manager, Quality Systems is responsible for Shelf Life Control and the Repairman are back-up for this function. Age sensitive material shall be inspected and processed in accordance with the material specification temperature storage requirements and QAI 303, Control of Age Sensitive Materials. Material shall be received, verified, logged, labeled and properly stored and monitored as documented in QAI 303 Control of Age Sensitive Materials. First-In-First-Out (F.I.F.O.) system for issuance of all age-sensitive material shall be used. When material is issued to the Repair Station, the Repair Station personnel shall monitor the age sensitive material for correct storage and expiration date. Stores and Repair Station personnel shall assure that any age sensitive material being transferred from the original container and distributed into smaller quantities, has a shelf life label installed on the smaller container. Quality Control inspection shall verify the accuracy of the age sensitive label being transferred. Repairman/designee shall contact QC personnel for inspection acceptance stamp. The shelf life label shall contain the following information as a minimum:

- a) Part number
- b) Trace number
- c) Shelf Life expiration date
- d) Inspection Acceptance Stamp

For action on purging and proper disposition of expired age-sensitive material, QAI 303 Control of Age-Sensitive Material procedure shall be followed.

HARDWARE AND EQUIPMENT STORAGE

To ensure stock control, segregation and identification, so that personnel will be able to locate parts/products and determine adequacy of the stock and to protect parts/products against deterioration and contamination, the following system will be used. Part number, trace number, and age control date will identify material parts and supplies. Special boxes, containers and preservation measures shall be utilized to preclude damage, deterioration or loss.

Materials, parts and supplies shall be stored in a restricted warehouse area and issued only upon a properly executed material requisition.

RELEASE TO SERVICE

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The MSC Analysis Form will be completed by Repair Station personnel as listed on Repair Station roster. The product shipping documentation, identified as repaired and serviceable, will be processed and forwarded together with the MSC Router or Overhaul Router, a completed 8130-3 Airworthiness Approval Tag (See Forms Manual) signed by an FAA Certified Repairman for each item and a copy of the MSC Analysis form to Shipping Inspection for acceptance and delivery.

The MSC Router or Overhaul Router, together with the MSC Analysis Form, Shipping, and Customer documentation, will be maintained on file in this Repair Station for a period of not less than two (2) year onsite (see section IX for off-site storage requirements).

MECHANICAL RELIABILITY REPORTS

The FAA Accountable Manager/Repair Station Manager will notify the relevant air-carrier as deemed appropriate, when work is being accomplished for an air carrier and a defect is found, as described under the Forms Manual. The air carrier will be notified in order that the air carrier may issue a Mechanical Reliability Report.

RESPONSIBILITY FOR SUBMITTING REPORTS

When work is being accomplished for an air carrier and a defect as described under the Malfunction or Defect Report is found, the air carrier will be notified as described below in order that the air carrier may generate a Mechanical Reliability Report.

The FAA Accountable Manager/Repair Station Manager or designee shall submit the report within 96 hours after the discovery of any serious failure, malfunction, or defect (Malfunction or Defect reports, via website <http://av-info.faa.gov/sdrx/> in accordance with 14 CFR 145) of any unit or product undergoing work by this station. If the defect or un-airworthy condition could result in an imminent hazard to flight, the most expeditious method available will be used to inform the FAA.

PARTS SUBSTITUTIONS

Not applicable to the repair or alteration of the products produced by Leach.

DUTY TIME LIMITATIONS

Within the United States, each certificate holder (or person performing maintenance or preventive maintenance functions for it) shall relieve each person performing maintenance

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or preventive maintenance from duty for a period of at least 24 consecutive hours during any seven consecutive days, or the equivalent thereof within any one calendar month.

SUSPECTED UNAPPROVED PARTS

A **suspected unapproved part (SUP)** is any part, component, or material that is suspected of not meeting the requirements of an "approved part". A part that, for any reason, a person believes in not approved. Reasons may include findings such as a different finish, size, color, improper (or lack of) identification, incomplete or altered paperwork, or any other questionable indication. Reference FAA Advisory Circular 21-29 (as revised).

An **unapproved part** is any part that does not meet the requirements of an "approved part" as defined in FAA Advisory Circular 21-29 (as revised). This term also includes parts that have been improperly returned to service (contrary to 14 CFR Parts 43 or 145).

When a suspected unapproved part is discovered, this repair station will immediately notify the FAA by calling the FAA Aviation Hotline at 1-800-255-1111 or 1-866-835-5322 by email to 9-AWA-ASY-SAFETYHOTLINE@faa.gov or to the physical address shown below. All suspected unapproved parts reported will be identified and quarantined in the repair station pending further investigation by FAA Personnel. The complete electronic copy of FAA Form 8120-11 may be sent electronically via internet site.

Physical Mailing Address for SUP notification:

**Federal Aviation Administration
Office of Audit and Evaluation, Aviation Safety Hotline, Rm 911
800 Independence Avenue, SW, Washington, DC 20591
ATTN: AAE-300**

HOUSING AND FACILITIES

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The FAA Certified Repair Station No. FJ3D503L shares facilities with Leach International Corporation which is completely housed in a two bay concrete tip-up building of approximately 100,000 square feet. The area is divided as follows:

- a) 45,000 square feet of Electronics manufacturing, including fabrication, assembly and test. Products manufactured include relays, printed circuit board assemblies, hybrid microcircuits and mechanical assemblies. Approximately 20,000 square feet of this is shared with the repair station. The shared areas (see figure on next page) are the MSC area (1), the Subminiature group A screening and electrical test areas & Calibration lab (2), the entire Power & Control manufacturing and test areas (3), the entire Equipment area (4), the Hybrid electro-mechanical assembly and electrical test areas (5) Environment and Burn-in test area (6).
- b) 8,000 square feet of material handling area including receiving inspection and receiving (7), stores (8), shipping (9) and maintenance (10). These areas (less shipping and receiving) provide indirect support to the repair facility. PDA (Power Distribution Area)/ LIE (Leach International Europe) Product Repair Area and LIE (Leach International Europe) Consignment Stock (11).
- c) 10,400 square feet of laboratories including R & D and qualification testing.
- d) 34,000 square feet of offices, including administration, accounting, engineering and sales, and cafeteria.

The building is heated by natural gas and air conditioned by approximately 400 tons of air conditioning package units. Lighting in the assembly areas is maintained at 100 monitored foot-candles at the bench level. The building is fully sprinkler equipped and remotely monitored. Security guards provide 100% coverage. Facility power is supplemented by 934 KVA of 400 Hz generators and 4000 amps of 28vdc power for testing and evaluation. Additional services routed throughout the manufacturing area include Nitrogen, CO₂, compressed air and chilled water.

A class 100,000 Clean Room supports Hybrid manufacturing and a class 100 Clean Room supports relay Millipore Inspection. Numerous Laminar flow benches are utilized for relay adjustment prior to sealing.

Hazardous materials are identified as required by regulation and flammable substances are retained in fire safe cabinets until required. Painting is performed in an isolated room (see Facility Floor Plan).

Repair station work orders are identifiable (segregated) by the utilization of a unique light green paper. Airworthy components are identified (segregated) by the attached 8130-3 tag. Non-repairable parts remain on the receiving shelf in MSC until return to the customer or until they are identified as scrap and rendered inoperable.

CHANGE OF LOCATION, HOUSING, OR FACILITIES

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The repair station shall not change location of its housing without written approval from the FAA.

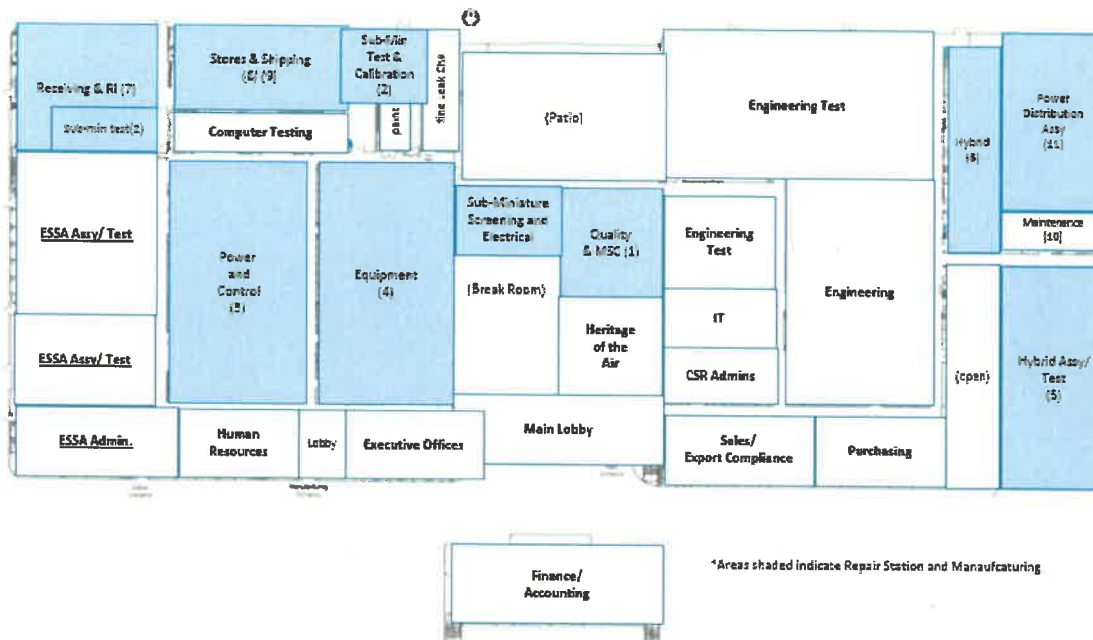
The repair station shall not make any changes to its housing or facilities required by 14 CFR Part 145.103 that could have a significant effect on its ability to perform maintenance, preventive maintenance, overhaul, or alterations under its repair station certificate and operations specifications without written approval from the FAA.

If the repair station does change its location, housing, or facilities, it will adhere to any FAA prescribed conditions, including any limitations, under which a certified repair station must operate during the change.

FACILITY FLOOR PLAN

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Current Layout



DESCRIPTION OF OPERATIONS

Parts for repair are delivered to the MSC Material Service Center by shipping/receiving department. MSC verifies the paperwork is appropriate. The parts are inspected for identification and any obvious damage. Then MSC personnel select the appropriate traveler. Parts are then delivered to the appropriate Repair Station areas for testing and repair (if required) Test is performed per applicable Acceptance Test Procedure, determine the necessary repair if the parts fail. After the repair, final Inspection is performed according to the specifications. FAA 8130-3 tag is issued by the 14 CFR Part 65 certificated repairman. MSC receives the complete job order and parts and send it to shipping to ship back to the customer.

EQUIPMENT AND MATERIALS/EQUIVALENT TOOLS AND EQUIPMENT

DESCRIPTION OF EQUIPMENT

The equipment utilized by the repair station encompasses a wide variety ranging from standard hand tools (screwdrivers, wrenches, calipers, etc.) to custom designed welding fixtures. Examples of tooling include modified hand tools used for adjusting relays, vacuum

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and standard ovens, environmental chambers (hot/cold), custom assembly tooling, custom holding fixtures for assembly and destructive testing, aqueous and solvent cleaning systems, laser sealing systems, scales, power supplies, volt and current meters oscilloscopes, custom electronic test equipment, microscopes, soldering equipment, automated wire cutting devices, paint guns and compressors, labeling machines, plating tanks and racks, etc.

EQUIPMENT LISTINGS

Equipment required to support the ratings held are listed in the various process specifications utilized to perform the repair functions. A list of calibrated equipment is available at the Calibration department. It is maintained as an electronic recall system and can be printed if required. Operators are required to verify the currency of all calibration labels prior to using any calibrated equipment.

LEASED EQUIPMENT

At this time there is no intent to rent or lease any equipment necessary for the repair of product.

EQUIVALENT TOOLS AND EQUIPMENT

All equipment utilized is the same equipment used by Leach International Corporation for the original production of like products.

PREVENTIVE MAINTENANCE

Equipment requiring preventive maintenance is listed on the Facilities computerized preventive maintenance system. Similar to the automated calibration recall system, this system generates reports of equipment coming due for preventive maintenance. New equipment requiring preventive maintenance is entered into the system and obsolete equipment is deleted as necessary. A list of equipment requiring preventive maintenance is available from the Facilities department computerized preventive maintenance system as described in FAC 000, Total Productive Maintenance.

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SECTION IV
CAPABILITY LIST

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CAPABILITY LIST

The capability list includes all products currently repaired and overhauled by Leach International Corporation known to be used on type certificated (TC) vehicles. This list is maintained by Quality Assurance. The list includes both Parts Manufacturer Approval (PMA) parts and non-PMA parts with identified TC use. The list is formulated from information provided by the Sales department and review of the MSC repair station database. It is posted to the intranet and at the company web site (www.esterline.com) as a PDF file and is under revision control. The list shall be revised as new TC usage product is identified. Upon revision, a new revision is posted in both the company intranet and the company web site under Product Support. The FAA Flight Standards District Office (FSDO) is notified of revisions to the capabilities list by e-mail (cover letter) that lists the revisions and the new revision is available to the FSDO through the company web site. If the website copy is unattainable, please email Jack.Brooks@esterline.com to obtain a copy by email.

CAPABILITY LIST SELF-EVALUATION

Self-evaluation shall be performed whenever it is required to revise the capability list. The need to revise the capability list can be driven by: 1) the identification of a TC application of a product not on the current capability list by Sales, 2) the issuance of a new PMA approval, and 3) a repair request for a part not listed on the current capability list. Once the need to revise the capability list is identified, Supervisor, Repair Station or designee shall perform self-evaluation utilizing the Capability List self-evaluation checklist form, MSC-F-035 (see Forms Manual).

Record the name of the person performing the self-evaluation, the product model number, and the source of the request on the checklist. Verify the repair station is rated to perform maintenance on the product. If the model number is a current production product, then the repair station has adequate housing and facilities, necessary the special tools and test equipment recommended by the manufacturer, and the equipment, materials, and qualified personnel necessary to perform maintenance on the product. Verify that approved repair data either exists for the product family or has been submitted for approval.

Once the self-evaluation checklist is completed and indicates that the repair station has the capability and resources necessary to perform the repair, the Supervisor, Repair Station, or her/his designee forwards the self-evaluation form to the FAA Accountable Manager/Repair Station Manager by either hard copy or e-mail. The self-evaluation checklist is reviewed and approved by FAA Accountable Manager/Repair Station Manager. If the self-evaluation is found to be unacceptable, the item under consideration will not be added to the capability list and the customer will be notified.

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SECTION V
APPROVED TRAINING PROGRAM REVISIONS

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TRAINING

Repair Station personnel shall be trained and qualified per the requirements of 512-0006-003-000 FAA Approved Repair Station Training Program Manual, latest revision. Any subsequent revisions will be submitted to the FSDO for approval prior to release. Any changes to 512-0006-003-000 FAA Approved Repair Station Training Manual will go through Quality Management systems process and the final draft will be sent to FSDO by FAA Accountable Manager/Repair station Manager for FSDO review. After FSDO's review and approval, the final draft process shall be formally released. The FSDO will be notified by email that the revision has been released and a hardcopy for review will be provided via U.S. Mail within 5 business days. Upon receiving the Approval letter from FAA, it will be placed in front of final released document and the FAA Accountable Manager/Repair Station Manager shall remove the obsolete version from the Intranet and company web site and post the new revision.

Repair Station personnel shall be thoroughly familiar with all inspection methods, techniques, and equipment used to determine the quality or airworthiness of the product. Repair station personnel maintain proficiency in using various inspection aids by daily application, classroom training, factory training or On the Job (OJT) as necessary.

Training will be scheduled as necessary for personnel to become familiar with new products and product/process improvements. The supervisory and lead personnel in each work area shall conduct training and will be responsible for the coordination of retraining. An annual assessment of the repair station training will be conducted and documented on the RS Annual Training Program review log QAF-287 (See Forms Manual) by Supervisor, RS. As an alternative, or as necessary, management personnel, if qualified, can also perform training. Training will be recorded via Training Attendance Roster - FAA Approved Repair Station FJ3D503L (See Forms Manual) QAF-224-RS. Training records will be maintained for each employee. Records will indicate the type of training, method, duration, date of completion, Percentage Grade (if applicable), and include the name of the instructor that conducted the training. Copies of special skills certification issued will be kept in the employee's files. Training records are used to support employee qualifications, proficiency and knowledge of applicable specifications, regulations and tasks. Qualification may also be supported by educational history and job experience. Records of training subject areas, qualified trainers, and a list of those employees, job classifications or departments that require training are maintained. Records are maintained of the types of training each employee has received and when. Copies are retained of completed training materials such as attendance sheets, tests, etc. Hard copies of training records are delivered to Human Resources for retention.

The FAA Accountable Manager/Repair Station Manager or his delegates will be responsible for identifying those processes requiring training, for assuring that personnel selection and job assignment are based on education, training and/or experience, for identifying employees/job classifications that need training, and for determining who is qualified to instruct employees and in which subjects. There will be a periodic assessment of employee competence via daily

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monitoring of performance (including quality of output) to determine if new training is required or if retraining is necessary outside the retraining cycle of one year. Training modules and materials are developed to meet specific reoccurring or OJT training requirements. This RSM, current specifications involving tolerances, limitations and procedures of the products inspected and other information such as the Code of Federal Regulation (CFR) or Airworthiness Directives are available for use. Supervisor, Repair Station is responsible for assuring that the training schedule is reviewed and that training is conducted when required. Designated instructors will deliver all completed test material to Supervisor, Repair Station and the completed Leach International Corporation Training Records for retention in the employee files, to Human Resources.

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SECTION VI
WORK AT OTHER LOCATIONS

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POLICY AND PROCEDURE

All work associated with the repair, alteration, and overhaul of products by this repair station is performed at Leach International Corporation in Buena Park. Should the need arise to perform the repair, alteration, and overhaul of products at other locations, Leach International Corporation shall make the appropriate Operations Specification change request to the FAA-FSDO and will revise this manual to meet the requirements of FAR 145.203 prior to performing any such activity.

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SECTION VII
MAINTENANCE OF 14 CFR 121, 125, AND 135 AIRCRAFT AND FOREIGN
CARRIERS OR PERSONS UNDER 14 CFR PART 129

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POLICY AND PROCEDURE

This repair station will perform this work in accordance per the operator's purchase/repair order and in compliance with each air carrier or operator's continuous airworthiness maintenance program and applicable sections of maintenance manuals, where existing. The repair station shall also follow the operator's FAA approved inspection program, when specified. If the operator's purchase/repair order reference specifications, orders, manuals are other than Leach specifications; the Repair Station will contact the operator prior to any work. Correspondences with each operator will be maintained in the Repair Station when specific manuals or other instructions are not available/applicable. This repair station will maintain a current copy of the applicable section of each operator's manual, when required by the operator's purchase/repair order that contracts with this repair station for the performance of that operator's maintenance. The Supervisor, Repair Station will be responsible for keeping current repair documents and/or manuals as required by the operator's purchase/repair order available in the Repair Station. In the absence of specific instruction, the repair station will not perform maintenance until such instruction is provided. MSC and Overhaul routers will be issued upon compliance with operator's requirements.

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SECTION VIII
CONTRACT MAINTENANCE

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POLICY AND PROCEDURE

All work associated with the repair and alteration of products by this repair station is performed at Leach International Corporation in Buena Park. This section is not applicable for the repair station as no work is contracted out. At this time there is no intent to contract out repair station work. Should the need arise for contracted maintenance functions, Leach International Corporation will revise this manual to document the procedures for controlling contracted maintenance and shall submit a list of contractors per the requirements of 14 CFR Part 145.217. The contract maintenance functions must be approved by the FAA prior to their use.

SECTION IX RECORDS

RETENTION AND RETREIVAL

All documentation generated during product repair is maintained in hard copy format and filed by RMA number. This data is maintained in the MSC files for at least two years. After two years the data can be transferred off site to a contracted data storage facility for retention and retrieval per QAP 2.3, Data Retention. The minimum retention period for all data is ten years from return to service.

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QUALITY CONTROL MANUAL

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SECTION I
INSPECTIONS

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GENERAL

This section documents the procedure for establishing and maintaining the inspection of raw materials to ensure acceptable quality, performing preliminary inspection of all product that are maintained or modified, the inspection of all products involved in an accident for hidden damage, and performance of the final inspection and approval for return to service for maintained product.

PARTS RECEIVING POLICY

Raw materials, piece parts, and subassemblies from external approved resources used in the repair and/or alteration of products in the repair station shall be inspected by Receiving Inspection. The Manager, Quality Systems is responsible to ensure that all incoming materials, AN or MS and other hardware, parts, component, equipment and other products procured for use by the repair station are subject to receiving inspection per QAP5.7, Receiving Inspection Procedure, to assure conformance to part number, purchase order and/or other applicable specifications. QAP 5.7 Receiving Inspection Procedure covers, but is not limited to, the detailed instructions for performing incoming inspections of raw material and standard parts and checks for proper documentation, identification, and traceability of parts, conformity to a specification and acceptable quality, shelf life, contamination, shipping damage and state of preservation. The records of such inspection shall be maintained and the trace numbers are electronically issued and printed. Products with shelf life limitations are processed and inspected in accordance with QAI 303, Control of Age Sensitive Material. Any products that fail to meet applicable specifications are processed per QAP 6.1, Control of Nonconforming Outputs. These are placed in the secure Material Review Board cage until dispositioned for repair, return to vendor, scrap, etc. Products found to conform to requirements are transferred to the stockroom per MAT 7.5.5.002 Stockroom Material Control.

ACCEPTANCE PIECE PARTS/SUBASSEMBLIES UTILIZED IN REPAIRS

Parts received for the purpose of repair and/or alteration of an article must have evidence of airworthiness prior to issuance to the repair station. When required by regulatory requirements, Leach International Corporation repair station certificated repairmen can perform an inspection of the received materials on QAF-234 Form to be consumed for use on repairs and issue an 8130-3 tag with the status "inspected". To be eligible for an 8130-3 inspected tag, the components must be produced by the PAH or DSA holder. The repairman will perform visual inspection of the parts to the Engineering drawing or specification and for any damage or obvious non-conforming conditions. Traceability verification of the part in the MRP System. This record of the inspection shall be maintained with the work order package according to QAP 2.3, Data Retention.

GENERAL TEST REQUIREMENTS

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All functional checks, repair/alteration work, and final inspections will be performed at the department responsible for the initial fabrication of the subject product and by authorized repair station personnel. The processing and testing shall be performed in accordance with the latest revision of the article approved data/documentation requirements, and in the sequence planned on the specific repair station Router. Compliance to Air-Carrier Continuous Airworthiness Maintenance Program (CAMP) requirements of FAA Part 121/135 operators, and subsequent instructions flowed to Leach International Corporation by the air-carrier shall take precedence for repair station compliance over articles maintained and returned to service and in accordance with FAA Part 145.205(a). Supervisor, RS must verify the current revision of any maintenance manual or service bulletin if applicable and record on QAF-272 on a monthly basis.

PRELIMINARY INSPECTION

Products received in the MSC for repair will be given an identification and damage check to determine proper identification, physical condition, and warranty status by MSC personnel. Perform visual inspection of the container and contents for shipping damage, packing, and proper paperwork. Compliance with Service Bulletins and Airworthiness Directives is determined. (At this time only applicable to the 9207-10296 (PCD) Product Control Drawing on our Capability List.) The results of the identification and damage will be recorded on the MSC Analysis form. Report damaged product to the Supervisor, Repair Station. Parts are issued to Inspection for preliminary visual inspection and to the electrical test personnel for functional test. The parts are then passed on to the repair station personnel for analysis, and determination of reparability.

HANDLING OF PARTS/PRODUCTS

Handling of parts and products shall be as described in section III of the RSM.

TAGGING AND IDENTIFICATION OF PRODUCTS

Initial Tagging and Identification of products shall be performed by the Repair Station in accordance with section III of the RSM. In addition, nonconforming material shall be processed as documented in QAP 6.1, Control of Nonconforming Outputs. Nonconforming material shall be recorded according to QAP 6.1 Control of Nonconforming Outputs.

INSPECTION FOR HIDDEN DAMAGE

The preliminary inspection performed by the repair station personnel will not be limited to the failure identified by the customer, but includes a thorough and searching inspection for hidden damage in all visible areas of the subject product. Other inspections performed by other repair

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station operators, occurring during the teardown and analysis of the product shall also include examination for any secondary evidence that could result from an accident such as heat or fire. All areas adjacent to such damage shall be inspected for damage. The results of all inspections shall be recorded on the router, including all evidence of any such damage. All hidden damage appearing to be the result of an accident (excessive heat, fire, excessive shock, mishandling, etc.) shall be reported to the customer.

IN-PROCESS INSPECTION AND FINAL PRODUCT VERIFICATION

Products will be functionally tested in accordance with a MSC Router or Overhaul Router prepared by the MSC Coordinator to verify the reason for return. Troubleshooting will be performed as necessary to confirm cause and corrective action. Troubleshooting will always be recorded on the Returned Goods Analysis Sheet, MSC-002. (See Forms Manual). The MSC Router or Overhaul Router will be cross-referenced to the MSC Analysis Form to assure continuity of documentation, part numbers, and date code/serialization. A copy of the Returned Goods Analysis Sheet will accompany the MSC Router or Overhaul Router in process. Qualified Repair Station inspection personnel listed on the repair station roster shall approve all Inspection callouts on the router using a Repair Station Inspection stamp. Title:

In process inspections, function test(s), and or calibration(s) will be accomplished in accordance with applicable drawings and specifications identified on the current technical data. The individual performing the task will record each inspection and test at the appropriate sequence and block on the MSC Router. Operator is responsible for completion status of each prior operation; if a discrepancy is identified the operator shall notify the area leader. In the event there is work turned over from one shift to another the area leader is responsible to communicate and assign the specific job. The leader or Supervisor will take appropriate action per OPR 017 (Production Handling for work-in process).

Product non-conforming conditions will be documented on the MSC Router or Overhaul Router per QAP 6.1, Control of Nonconforming Outputs, and either re-worked to applicable drawings and specifications or will be withheld from further processing pending MSC, and/or customer disposition.

CONTINUITY OF INSPECTION RESPONSIBILITY

See section II of this QCM.

FINAL INSPECTION AND RELEASE TO SERVICE

Repairmen included on the Repair Station Roster shall perform the Final Inspection. Final inspection for all repaired products will be in accordance with the applicable approved technical data. Final Inspection shall include a review of all documents used during maintenance (routers, etc.) as well as inspection of the product. The Final Inspection must

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be signed-off on the Final Inspection block of the MSC Router or Overhaul router by a repairman certificated under 14 CFR Part 65.

The MSC Analysis Form MSC-010 will be completed by Repair Station personnel as listed on Repair Station roster and reviewed by Certified Repairman. The product shipping documentation, identified as repaired and serviceable, will be processed and forwarded together with the MSC Router or Overhaul Router, a completed 8130-3 tag (See Forms Manual) signed by an FAA Certified Repairman for each item and a copy of the MSC Analysis form to Shipping Inspection for acceptance and delivery.

The MSC Router or Overhaul Router, together with the MSC Analysis Form, Shipping, and Customer documentation, will be maintained on file in this Repair Station for a period of not less than two (2) years.

DUTY TIME LIMITATIONS

Each certificate holder (or person performing maintenance or preventive maintenance functions for it) shall relieve each person performing maintenance or preventive maintenance from duty for a period of at least 24 consecutive hours during any seven consecutive days, or the equivalent thereof within any one calendar month

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SECTION II

CONTINUITY OF MAINTENANCE AND INSPECTION RESPONSIBILITIES

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CONTINUITY OF INSPECTION RESPONSIBILITY

Continuity of inspection shall be assured through the use of a MSC Router or Overhaul Router (See Forms Manual, for typical generic MSC Router and Overhaul Router). The MSC Router or Overhaul Router shall delineate each step of the repair/alteration sequence. The steps shall be performed in sequence and no step shall be stamped until the operation is complete. Steps that are not applicable to a specific product shall be marked as not applicable ("N/A"). Note: Only, designated personnel, have the authorization to (N/A) tasks/step. The designation letter will be initiated by the FAA Accountable Manager/Repair Station Manager and kept on file.

At Final Inspection, the Repair Station Inspection personnel shall assure that the MSC Router or Overhaul Router is complete and correct as the first step of Final Inspection. The Repairman shall review all paperwork for completeness and correctness prior to preparation of release to service documentation. In this manner, for each repair/alteration performed, it shall be assured that all necessary operations are performed and that a record of those responsible is maintained.

STAMPS

Acceptance of work performed by the repair station shall be signified by stamping the appropriate box on the MSC Router or inspection form along with the date the work is accepted. The Manager, Quality Systems or his delegates are responsible for assuring that this procedure is adhered to and that Repair Station stamps for different functions shall be clearly distinct from one another and shall not resemble the stamps of customers or regulatory agencies. Manager, Quality Systems/Designee is responsible for controlling, bonding, issuing, and maintaining logs on the test and inspection stamps as described in QAP 1.8, Identification & Traceability. The Supervisor, Repair Station is responsible for controlling, bonding, issuing, and maintaining logs on the Operations stamps. Stamp Issue Logs will be maintained to ascertain the status of any inspection and test stamp in existence at Leach International Corporation. Revisions of the Stamp Issue Logs shall be dated and archival copies maintained for a period of ten years. The Stamp Issue Logs shall contain the following information as a minimum: date of revision, stamp number issued, the status of stamp issued, name of stamp holder, department number of stamp holder, stamp issued date, bond date, comments (condition of bonded stamps, reason for return). Stamps shall be bonded for a minimum of six (6) months prior to re-issue. Lost stamps are to be reported immediately to the responsible Department designee. Stamps shall be bonded for a minimum of two (2) years prior to re-issue where the stamp has been reported as misplaced. Relocated stamps may be removed from two (2) year bond.

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AUDITS

Leach International Corporation Repair Station (FJ3D503L) maintains the audit system that is independent of the components maintenance repair process and their release to service inspections. The Annual Repair Station Audit is performed as described in the Quality Assurance System section of the EASA Supplement and QAP 1.9 Internal Audits.

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SECTION III
REPAIR STATION INSPECTION PERSONNEL

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GENERAL

This section documents the procedure for establishing and maintaining proficiency of Repair Station inspection personnel to assure that they are thoroughly familiar with the applicable regulations and the inspection methods, techniques, practices, aids, equipment and tools used to determine the airworthiness of a product.

REQUIREMENTS OF REPAIR STATION INSPECTION PERSONNEL

Inspectors must demonstrate proficiency in using the various types of inspection equipment and visual aids required prior to performing repair station work. They must pass a written (English) general examination and must understand, read, and write English. Classroom training examination in English is considered equivalent to written English examination. The course examination pass/fail criteria shall follow the requirements listed in 512-0006-003-000 FAA Approved Repair Station Training Program Manual. The Supervisor Repair Station and or qualified delegate is responsible for assessing the capability of the inspectors and assuring that only capable persons are issued inspection stamps.

Repair Station inspection personnel require access to and proper knowledge of current technical data to perform their tasks. They need to be familiar with the RSM and QCM for the repair station, as well as the applicable federal aviation requirements. Supervisor, Repair Station or designee, is responsible for assuring that repair station inspection personnel have received training to become familiar with these documents and assuring that training records are maintained as described in 512-0006-003-000 Repair Station Training Program Manual.

The Document Control group of the Engineering Services department at Leach controls technical data utilized for Leach OEM repairs listed on Leach capability list. Current technical data is maintained in Adept (Engineering Document Control) as described in QAP 2.1, Engineering Documentation Control. Supervisor, Repair station is responsible for reviewing Air Carrier Websites as described in Post Delivery activities procedure 512-0024-000-000 and internal documentation changes, determining if they significantly affect operations in their area, and performing training if determined to be of significant effect. LIE, as OEM, controls technical data utilized for LIE OEM repairs listed on Leach capability list through LIE controlled Portal(See detailed Instructions in section IV of Quality Control Manual).

The Final Inspection must be conducted by an authorized repairman certificated under 14 CFR Part 65, and listed on the Repair Station Roster as having such authority. Only certified repairmen may approve articles for return to service.

Supervisor, Repair Station is responsible for monitoring the proficiency of Repair Station inspection personnel working in their areas and assuring that proficiency is maintained.

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Proficiency shall be monitored through observation of work quality and during yearly training. Loss of proficiency observed as increased repair and rejections shall require immediate retraining.

Repair station management is responsible for assuring that all repair station Inspection Personnel have employment summary documented as required in the RSM section II.

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SECTION IV
TECHNICAL DATA

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GENERAL

This section documents the procedure for ensuring that current technical data is available for the scope of work the repair station is performing. Approval for return to service requires approved technical data that is acceptable to the FAA. The Quality Engineering Manager is responsible for Technical Data and the Supervisor, Repair Station is back-up for this function.

ACCEPTABLE TECHNICAL DATA

In the absence of Manufacturer's technical data (such as maintenance manuals or Service Bulletins), Engineering data (DER approved data or data developed by the repair station and approved by the FAA) is required for repair station work.

CURRENCY OF DATA

Current technical data shall be available to all Repair Station personnel. For performing maintenance, preventive maintenance, or alterations for an air carrier that has continuous airworthiness maintenance program under part 121 or part 135, Leach International Corporation Repair Station follows the air carrier's instructions. The latest instructions will be obtained according to process defined in 512-0024-000-000 (Post Delivery Activities) prior to repair. This is accomplished thru the generation and maintenance of repair routers. These repair/overhaul routers shall be available for each product family identified on the capabilities list. These repair/overhaul routers are generated and maintained per OPR 015, Router and Operation Maintenance and bill of materials are maintained per QAP 7.5.1.004. Examples of repair and overhaul routers are available in section VII of this QCM. The remaining technical data shall consist of the current revisions of the referenced product control specifications, manufacturing specifications, and process specifications as specified in the Repair Procedure, 512-0006-002-000.

For Leach OEM (Original Equipment Manufacturer) product repair at Leach repair station;

1. QAP 2.1, Engineering Document Control, controls the currency and availability of this technical data.
2. ENG 003, ECR/EO Process, is used to control revisions of this technical data.

For LIE (Leach International Europe) OEM product Repair at Leach Repair Station;

LIE is responsible for translating the latest technical data into English and uploading to the LIE Portal. LIE is responsible to ensure translation is accurate, current and complete. Leach Repair Engineer is responsible to contact LIE for any discrepancy in translation identified during the repair process.

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1. Leach Repair Station Management/Designee is responsible to ensure all Repair Station personnel on having access the technical data for repair.
2. LIE is responsible for revision control of Technical Data and notifies Leach Repair Station management for any technical data revision changes.
3. Leach Information Technology Department is responsible to maintain portal security and issue the repair station personnel access to the LIE Portal.
4. Leach Repair Station Management is responsible to instruct and ensure the Repair Station personnel to use the latest revision of technical data.

CONTROL OF COMPUTER TEST SOFTWARE

For Leach OEM product repair at Leach repair station;

Computer software utilized for the acceptance of product testing is controlled by 552-0245-000-000, Procedure for Control of Test Equipment Software/Data Acquisition Software. Information on the responsibility for software maintenance, revision, and distribution of this software is included in this procedure.

For LIE (Leach International Europe) OEM product Repair at Leach Repair Station;

Computer software utilized for acceptance of product testing is controlled by LIE (Leach International Europe). LIE (Leach International Europe) is responsible for software maintenance, control, revision, verification and distribution and etc.

NOTE: OEM Technical Data consist of Manufacturing Drawings as referenced in 512-0006-002-000. LIE Technical Data consist of referenced CMM (Component Maintenance Manual), Service Bulletins or Repair Solutions

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SECTION V
TOOLS/EQUIPMENT CALIBRATION

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CONTROL OF PRECISION TOOLS AND TEST EQUIPMENT

The Manager, Quality Systems is responsible for Calibration. Measurement (precision tools, gauges, scales, and meters) and test equipment (M&TE) used in repair station operations are subject to periodic checks and calibration in accordance with the QAP 4.1, Monitoring and Measuring Resources. Leach contracts outside calibration sources to perform the calibrations. The outside sources are responsible for the specific calibration procedures. Both Leach and its contracted calibration service maintain computerized calibration tracking systems, which include all equipment requiring calibration. The systems generate both recall lists noting equipment shortly coming due for calibration and calibration overdue lists. The calibration coming due lists assist in acquisition of equipment for calibration prior to the calibration becoming delinquent and are issued monthly to those departments with equipment coming due for calibration. The past due list is used to assist in the location of equipment which has not been returned for recalibration in a timely manner.

All the equipment and tools used to maintain articles are recommended by the article's manufacturer. If there is equivalency recommended by article's manufacturer and applied at Leach repair process, the basis of equivalency is defined as the article meet the original manufacturer's standards and specifications in all respects regarding tolerances, repeatability, and accuracy. The equivalency shall be demonstrated, documented and approved by Manager, Quality Systems, or designee. The records shall be maintained according to QAP 2.3 Data Retention.

At no time will any person be permitted to perform work on product using measurement or test equipment that is out of calibration. Area supervisors will randomly check calibration labels, , and QA audit to assure that M&TE used is in calibration. If at any time a piece of M&TE inadvertently exceeds its calibration due date, it will immediately be removed from service (physically or Do not Use Tagged), QAT-006 (See Forms Manual), until a calibration check has been performed.

All repair station personnel, before using M&TE, are responsible to check that the equipment has a current calibration label attached. Any piece of M&TE found in the repair station without a current calibration label attached shall be reported to Calibration and red tagged to prevent use.

Notification of out of tolerance conditions shall be provided by the calibration source. The "Out of Tolerance Notification Form", QAF-036 (See Forms Manual) shall be filled out by Leach's Calibration Coordinator. Equipment that was identified as out of tolerance shall be immediately brought to the Manager, Quality Systems' attention via an "Out of Tolerance Notification Form" for evaluation. The evaluation shall determine if the out of tolerance condition had any possible detrimental effect on accepted products and if the equipment requires an interval adjustment. The "Out of Tolerance Notification Form" shall state the current calibration status, current as found condition including details of the problem, prior as

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found condition, previous calibration date, current calibration date and identify for interval review equipment found out of tolerance during the current and last calibration. All out of tolerance evaluations shall be completed and returned within 30 days of finding unless required earlier by Leach's Calibration Coordinator and kept in each individual instrument's history file in the calibration laboratory. When the calibration source supplies its own "Out of Tolerance Notification Form" that form may be used in lieu of Leach's form, provided the requirements of QAF-036 are met. *Note that Leach International does not allow personal MT&E tools to be used.*

An Out of Tolerance condition occurs when the instrument does not meet its current rated accuracy between a working standard and the MT&E being tested. The Manager, Quality Systems or designee shall make determination of significantly out of tolerance conditions. Work in process (WIP) and items in Stores, affected by significantly out of tolerance conditions, and shall be purged. Problem Advisories shall be issued for any shipped product associated with significantly out of tolerance conditions.

TEST EQUIPMENT CALIBRATION REQUIREMENTS

Calibration procedures and methods shall require standards traceable to the National Institute of Standards and Technology. Test equipment shall be calibrated at periodic intervals established on the basis of stability, purpose, and degree of usage. One year shall be the maximum established calibration interval. Calibration sources shall ensure that measurements made are traceable to national, international, or intrinsic standards of measurements where available. Where no national or international recognized standard exists, the basis used for calibration shall be determined and documented. All Measurement and Test Equipment (M&TE) must be labeled, marked or otherwise identified to indicate its calibration status by using a tag issued by the service provider. When it is impractical to apply a label directly to an item, the label may be affixed to the instrument's container or some other suitable means may be used to reflect calibration status. As a minimum, every calibrated device must be labeled by Leach, the calibration source or their approved sub-contractors with the date of calibration, any limitations, the date of next calibration, and the identification or stamp of the individual or company performing the calibration. Instruments limited for calibration must be tagged using a Limited Use label (See Forms Manual or Calibration Source Labels) and provide a statement of any and all functions being limited on Limited Use Label, QAT-008 (See Forms Manual or Calibration Source Labels). Limitations at all times must be made available to the operator in written form. [Some examples of limitations are the limitation of the use of a measurement device to one measurement range or to limit the use of test equipment to a specific temperature range.] Calibration sources, utilized for calibration of M&TE, must have the capabilities of performing the required services. Calibration sources should have available all equipment needed for the calibrations they normally perform, whether owned, leased, rented or borrowed. The calibration sources must assure that leased, rented or borrowed equipment meet the same requirements as owned equipment. Calibration sources will be surveyed and evaluated yearly to ensure that they are capable of performing the required services. The

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survey and evaluation shall be documented per the requirements of QAP 4.1, Monitoring and Measuring Resources. Environmental conditions should be appropriate for the type of work being performed. Only the environmental factors that could affect the accuracy, stability, or performance of the calibration require control. Correction factors may be applied by the calibration source to compensate for the accuracy of the equipment, thus allowing calibration to continue. Leach shall retain calibration records for a minimum of seven years, unless specified otherwise by contract. The calibration records shall be made available for customer verification when contractually required.

The contracted calibration service certifies the use of standards, traceable to the National Institute of Standards and Technology, for all calibrations performed.

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SECTION VI
DISCREPANCIES/CORRECTIVE ACTION

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POLICY/PROCEDURE

Corrective action (C/A) performed to resolve deficiencies is applicable in as least four situations: C/A as the result of deficiencies noted during the repair/release process, C/A as the result of the analysis of returned product and C/A to resolve Internal and External audit findings.

Deficiencies noted during the repair/release process are recorded per QAP 6.1, Control of Nonconforming Outputs. The scrap parts control for Repair station is processed according to QAP 6.1.3 Control of Scrap Material and Material Service Center Procedure 512-0024-000-000. Immediate C/A is the simple repair of the product to a compliant condition for continued processing. Repetitive noncompliance during the repair/release process indicated the need for review of housing, facilities, equipment, personnel qualifications, and procedures to ensure that the noncompliance is not a systematic problem. QAP 6.1, Control of Nonconforming Outputs, requires C/A for repetitive occurrences of any noncompliant condition. QAP 6.3, Corrective Action, documents the formal C/A process on QAF-024 Corrective/Preventive Action Request form.

Repetitive deficiencies, attributed to poor design, poor processing, or inadequate workmanship conditions, noted during troubleshooting of returned product, require corrective action to preclude the release of other product with similar deficiencies. QAP 6.3, Corrective Action, documents the C/A process for external returns. In the event that Failure Analysis identifies any evidence of potential violations of the regulations, the repair station should avail itself of the self-disclosure program addressed by AC-00-58. Any Failure Analysis identifying manufactured defects that may affect other released product requires the notification of customers of the possible deficiencies.

See QAP 6.3, Corrective Action, for description of the Failure Analysis, C/A process.

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