



Company Name: Crane Aerospace & Electronics, HYDRO-AIRE, INC. Div. Corporation
 Founded 1943
 Parent Company: Crane Co. Acquired Hydro-Aire in 1951
 Mailing Address: P.O. Box 7722
 Burbank, CA 91510

Shipping Address: 3000 Winona Ave
 Burbank, CA 91504

Telephone Number: (818) 526-2600
 Facsimile Number: (818) 842-6117
 Internet email: info@craneaerospace.com
 Company website: www.craneae.com

DESCRIPTION OF BUSINESS

Hydro-Aire, Inc. is the world leader in aircraft Antiskid, Brake Control, and Autobrake systems. Most of the world's aircraft are stopped by Hydro-Aire brake control systems every day.

Hydro-Aire, Inc. is also a leader in the design and manufacture of high performance fuel pumps and hydraulic components.

P.L Porter Co., a California corporation, merged with and into Hydro-Aire Inc. in accordance with the General Corporation Law of the State of California. The separate corporate existence of P.L. Porter ceased and Hydro-Aire, Inc. is the surviving corporation of the merger. As a result of this merger, Hydro-Aire, Inc. is now also a global leader in position control devices and adjusting technology for aircraft seating and other aircraft cabin applications specifying the P.L. Porter brand. Other P.L. Porter brand industries include office furniture, bus, rail and home health equipment.

ORGANIZATION STRUCTURE

| | |
|---------------------------|----------------|
| VP Site Manager | Dan Link |
| VP Engineering | Ahmed Louchahi |
| VP Finance | Tony Urrutia |
| Product Support Manager | Tcheck Chin |
| Quality Assurance Manager | Bruno Lozingot |
| Headcount: Company total | 636 |
| Engineering | 144 |
| Administration | 91 |
| Mfg. Operations | 312 |
| Quality Assurance | 28 |
| Plant Area | 175,000. sq ft |



CUSTOMER SUPPORT

The enclosed Product Support Contact Information provides the latest update for communications concerning repairs, publications and technical assistance. 24-hour AOG emergency support is available at (818) 526-2600.

Note: HYDRO-AIRE, INC. is in the U.S. - Pacific Time Zone. *CAGE Code = 81982.*

REPAIR FACILITIES

HYDRO-AIRE, INC. currently has 21 FAA Repairmen and holds PMA on numerous products. The on-site FAA Repair Station currently services only HYDRO-AIRE, INC.-designed equipment. Hence, the document control system for repairs is equivalent to the system for manufacturing operations. All aircraft-related products are provided with an Airworthiness Approval Tag (FAA Form 8130-3). Failure analysis and trending data are recorded and reviewed regularly through a Failure Review, Analysis, and Corrective Action System (FRACAS).

QUALITY ASSURANCE

The HYDRO-AIRE, INC. Quality System evolved from MIL-Q-9858A and is approved to **ISO-9001:2008** through Lloyds Register Quality Assurance (LRQA Certificate of Approval # UQA0108525/B). This registration includes the **Tick-IT** software and **AS9100** aerospace endorsements.

An internal Quality Assurance Department regularly monitors the Quality System. The FAA certifies the Quality System (ACSEP) through which PMA authority is provided. Additionally, the System is routinely audited and approved by DCMA -Van Nuys, aircraft and manufacturers, system integrators and individual airlines. Numerous customers have approved HYDRO-AIRE, INC. as a Delegated Quality Source Representatives.

AUDITS / INSPECTIONS

HYDRO-AIRE, INC. conducts an extensive series of evaluations on processes and products to ensure compliance to company as well as customer requirements. Systems Audits are conducted annually to determine compliance to Quality System requirements. Process Audits assess whether operators perform in compliance with detailed assembly and testing procedures. Design control audits are routinely performed during program development. Product Audits are periodically conducted on Finished Goods. In this teardown process, a finished product is evaluated for functional, workmanship and documentation compliance.

Receiving Inspection and delegated Line Inspection review physical characteristics of product to drawing requirements in both the manufacturing and repair departments. Shipping Inspection provides a final verification of actual product and provides a Certificate of Conformance or FAA Form 8130-3, as appropriate. Inspectors issuing 8130-3 tag DMIR delegated from the FAA Van Nuys office.



PREVENTIVE AND CORRECTIVE ACTION

Continuous improvement of processes is proactively encouraged through various approaches. Advanced Quality System, Lean Manufacturing, Kaizen and Six-Sigma techniques, such as statistical analysis and process control, designed experiments and gage variation studies, are utilized to achieve process optimization.

HYDRO-AIRE, INC. maintains comprehensive corrective action processes appropriate to the level of action required. The root cause is systematically researched and action taken to prevent recurrence. Continuous monitoring of in-plant, supplier and also field performance data are utilized in product and process analysis.

DESIGN AND MANUFACTURING OPERATIONS

Design Reviews, Qualification Testing, First Article Inspections, etc. are used to manage the product development process. A Configuration Management group controls the release and revision of all Engineering drawings, parts lists, and software. Detailed manufacturing instructions are developed for each product. Assembly and testing of deliverable product are performed to documented procedures.

All products receive 100% Acceptance Testing and Final Inspection. Statistical Process Control is being phased into critical processes to improve capability analysis and refinement. A Parts Reliability Tracking System is used to further enhance component and product performance analyses.

SPECIAL PROCESSES

Special Processes are defined and controlled per AS9100 process control requirements. Military or industry standards or internal specifications generally govern them. Control is maintained through documented procedures and a combination of equipment certifications and/or personnel training and certification. HYDRO-AIRE, INC. can support environmental and EMI testing, HYDRO-AIRE, INC. personnel are currently certified to perform Magnetic Particle Inspection and Liquid Penetrant Inspection per ASNT Level II.

PROCUREMENT

All HYDRO-AIRE, INC. suppliers who provide production hardware are approved and regularly audited by Procurement Quality Engineering. Receiving Inspection accepts materials, components and subsystems per an Approved Vendor List and Engineering-controlled Receiving Inspection Requirements. A First Article Inspection in accordance with AS9102 is performed on all new procurements; and the history of lot acceptance and rejection is maintained for each part number received.



NONCONFORMANCES

Nonconformances are identified, documented and trended at Receiving Inspection and at various points throughout the manufacturing processes. Nonconforming materials are segregated and then dispositioned with appropriate authority, using predetermined decision rules. Quality Assurance is responsible for ensuring 1) agreed upon corrective and preventive actions are timely and effective and 2) scrapped parts are destroyed or suitably marked to prevent unauthorized use.

CALIBRATION OF MEASUREMENT AND TEST EQUIPMENT

All tools and equipment used in the measurement, inspection and testing of deliverable product are checked and certified for accurate operation. No personal tools are used for these purposes. The HYDRO-AIRE, INC. calibration system and recall procedures conform to ANSI Z540-1, which supersedes MIL-STD-45662A. Internal standards are certified traceable to NIST.

TECHNICAL TRAINING

Numerous classes provide employees with training specific to the type of work involved within the department assigned. Technical training may consist of classroom instruction and/or on-the-job training depending on the subject involved. Training records and re-certification requirements are maintained by Human Resources.

Specific soldering certifications involve low-temp and high-temp circuit board soldering, surface mount components, etc. Other technical training involves: ESD, rework & repair, traceability, hazardous chemicals, age-sensitive materials, component bonding, conformal coating, and encapsulation.

RECORDS AND DATA RETENTION

HYDRO-AIRE, INC. maintains records of activities associated with manufacturing, repair and quality assurance as objective evidence of product conformance. These records are maintained and made available for review as a minimum of 10 years or as required by specific contracts.



PRODUCT SUPPORT CONTACT INFORMATION

HYDRO-AIRE, INC. CORPORATION

| <u>Mailing Address</u> | <u>Physical Site/Shipping Address</u> |
|--|--|
| HYDRO-AIRE, INC. P.O. Box 7722 Burbank, CA 91510 | HYDRO-AIRE, INC. 3000 Winona Ave Burbank, CA 91504 |

CAGE CODE.....81982
ARINC/SITA.....BURHYXD
General e-mail Internet address.....info@craneaerospace.com
24 Hour AOG Emergency Spares and Repairs.....(818) 526-2600
(HYDRO-AIRE, INC. is in the Pacific Time zone)

Customer and Product Support

Product Support Business Manager
Tcheck Chin
Telephone (818) 526-2292
Facsimile (818) 526-2658
email tcheck.chin@craneaerospace.com

Publications/Technical Data Distribution

Cas Barone

| | |
|-----------|-------------------------------|
| Facsimile | (818) 526-2244 |
| Telephone | (818) 526-2465 |
| email | cas.barone@craneaerospace.com |



HYDRO-AIRE, INC. Standard Audit Checklist Responses

Component Repair/Overhaul Vendor (REPAIR STATION)

This questionnaire is based on the typical customer checklists

| 1. CERTIFICATION | YES | NO | N/A |
|--|------------|-----------|------------|
| A. Does REPAIR STATION hold an FAA repair station certificate? | X | | |
| B. Record certificate number. <u>QD3R785L</u> | X | | |
| C. A copy of certificate and limitations is posted in an unobscured area accessible to the public. | X | | |
| D. Is the certificate unobscured in an area accessible to the public? | X | | |
| 2. ANTI-DRUG | YES | NO | N/A |
| A. Does the REPAIR STATION have an FAA approved anti-drug plan? | X | | |
| B. Record plan number <u>176726</u> See attached A449-1. | X | | |
| C. A Consortium's | X | | |
| D. Consortium/air carrier name, if applicable: Lexis Nexis Randoms Group | X | | |
| 3. GENERAL | YES | NO | N/A |
| A. Does the REPAIR STATION only perform work for which he is authorized on his operations specifications? | X | | |
| B. If the vendor deals in non-aircraft parts, materials and/or maintenance activities, are they adequately segregated from the aircraft functions? | X | | |
| C. Does the vendor maintain a file of audit findings and corrective action for three years? Is it accessible to the auditor? | X | | |
| D. Is there a back-up person identified for all programs that require it? | X | | |
| 4. QUALITY CONTROL | YES | NO | N/A |
| A. Is there an established Quality Control Program? | X | | |
| B. Does the vendor have an up-to-date QA/QC manual that covers all of the manual requirements? | X | | |
| C. Does manual detail duties, responsibilities and reporting relationships of the QA/QC department? | X | | |
| D. Are the QA/QC manuals current and available to employees? | X | | |
| E. Does REPAIR STATION have an internal audit and surveillance function? | X | | |
| F. Does the function ensure compliance with customer specifications? | X | | |
| G. Does audit program assure appropriate corrective action? | X | | |
| H. Does the REPAIR STATION have an organization adequate to perform the work intended? | X | | |
| I. Do supervisors have A&P or Repairman certificates? | X | | |
| J. Does REPAIR STATION have an established procedure to provide corrective action for discrepancies noted during repair/overhaul? | X | | |
| K. Does REPAIR STATION maintain a list of "sub-contracted" maintenance actions and approved vendors for those functions? | X | | |
| L. Does REPAIR STATION ensure that sub-contractor quality meets customer specifications and legal requirements? | X | | |
| M. Does REPAIR STATION maintain certification on sub-contract work? | X | | |
| N. Does REPAIR STATION have a procedure for reporting defects or unairworthy conditions to the customer and the FAA? | X | | |

| 5. INSPECTION | YES | NO | N/A |
|---|------------|-----------|------------|
| A. Are inspectors properly trained and certified? | X | | |
| B. Is there proper separation of maintenance and inspection responsibilities for vendors that perform required inspections? | X | | |
| C. Does REPAIR STATION maintain a list of items each inspector is authorized to inspect? | X | | |
| D. Does REPAIR STATION perform any required inspections for any customers? | X | | |
| E. Does repair station roster identify all supervisory and inspection personnel? | X | | |
| F. Does the roster identify all personnel authorized for return to service? | X | | |
| G. Does the repair station have an employment summary for all personnel listed on the repair station roster? | X | | |
| H. Does the REPAIR STATION have an acceptable receiving inspection system? | X | | |
| I. Does the REPAIR STATION have an acceptable procedure to identify customer parts? | X | | |
| J. Does REPAIR STATION maintain traceability certification on all parts and raw materials? | X | | |
| K. Are acceptable sampling procedures adequate to ensure quality? | X | | |
| L. Does the vendor have an acceptable system for controlling stamps, for both inspection and production personnel? | X | | |
| 6. TECH DATA CONTROL Note: "Manuals" in this context includes any technical data, i.e. drawings, wiring diagrams, test specs., necessary to perform the required service. | YES | NO | N/A |
| A. Does the REPAIR STATION have the required shop manuals and specifications to perform the repair/overhaul in accordance with customer requirements? | X | | |
| B. Are there established approved procedures controlling revisions in manuals deviating from OEM specifications e.g. EO or EA. | X | | |
| C. Does the REPAIR STATION have a system to ensure technical data is current? | X | | |
| D. Does REPAIR STATION have records of manual revisions? | X | | |
| E. Are manual revisions up to date? | X | | |
| F. Are component overhaul manuals properly identified and available to mechanics? | X | | |
| G. Does REPAIR STATION have a system to control working copies of manuals to ensure they are revised with the masters? | X | | |
| H. Is technical data stored in a manner that will protect it from dirt & damage? | X | | |
| I. Are adequate viewing devices in good condition available for viewing the technical data? | X | | |
| J. Is a specific individual, by title, responsible for the Technical Data Program? | X | | |
| K. If the REPAIR STATION has SFAR 36 authority, does he have a system for receiving customer approval prior to use of the data? | | | X |
| L. Does the REPAIR STATION have an approved SFAR 36 manual and roster? | | | X |
| 7. SHELF LIFE | YES | NO | N/A |
| A. Does REPAIR STATION have a documented shelf life program? | X | | |
| B. Does the program list parts and materials that have shelf life limits? | X | | |
| C. Does the program assign program responsibility to a specific person by title? | X | | |
| D. Does each shelf life item have the shelf life expiration limit displayed? | X | | |
| E. Is there an adequate system to assure that no item will be issued or used past its expiration date? | X | | |

| 8. <u>TOOL & TEST CALIBRATION</u> | YES | NO | N/A |
|---|------------|-----------|------------|
| A. Does REPAIR STATION have a tool calibration program? | X | | |
| B. Does the REPAIR STATION have a person, by title, responsible for the tool calibration program? | X | | |
| C. Are all tools in use listed on the tool calibration list? | X | | |
| D. Are standards used to calibrate tools traceable to the controlling government agency, e.g. The National Institute of Standards and Technology? | X | | |
| E. Is there a system to identify each tool in the program, its calibration frequency and its calibration due date? | X | | |
| F. Does Repair Station have a procedure for controlling and/or preventing out-of-service and due-for-calibration tools and equipment from being used? | X | | |
| G. Does the REPAIR STATION have a procedure to control the calibration of personal tools? | X | | |
| H. Did a sample of the calibrated tooling indicate that the tooling is within calibration? | X | | |
| I. Are the tools & test equipment in a serviceable condition? | X | | |
| J. Do records? | | | |
| 1) Show date calibrated | X | | |
| 2) Identify individual or vendor that performed calibration or check? | X | | |
| 3) Show calibration due date? | X | | |
| 4) Contain a certificate for each item calibrated by an outside agency? | X | | |
| 5) Record details of adjustments and repairs? | X | | |
| 6) Show the P/N and S/N of the standard used to perform the calibration? | X | | |
| 9. <u>TRAINING</u> | YES | NO | N/A |
| A. Does REPAIR STATION have a documented training program? | X | | |
| B. Does it include all mechanics, inspectors and technical supervisors? | X | | |
| C. Is formal and OJT training documented? | X | | |
| D. Are training records for mechanics, inspectors and supervisors retained for two years after the person leaves the company? | X | | |
| 10. <u>HOUSING & FACILITIES</u> | YES | NO | N/A |
| A. Does REPAIR STATION have facility of adequate size to house all necessary tooling, equipment, material and parts to perform work? | X | | |
| B. Does the housing adequately protect parts, materials, and customer units from damage, theft and contamination? | X | | |
| C. Is the environment appropriate to protect workers so that the quality of workmanship is not impaired by physical efficiency? | X | | |
| D. Does facility have adequate lighting? | X | | |
| E. Are storage facilities separate from shop and work areas? | X | | |
| F. Do shipping and receiving areas have adequate space, lighting, shelving, security and fire protection? | X | | |
| G. Is there adequate and appropriate storage space to safely store customer's shipping containers and protect them from damage? | X | | |
| H. Is the work are, including supervisors' offices, clean? | X | | |

| 11. <u>SAFETY/SECURITY/FIRE PROTECTION</u> | YES | NO | N/A |
|--|------------|-----------|------------|
| A. Does REPAIR STATION provide adequate security for customer parts in his possession? | X | | |
| B. Is the security system reviewed periodically by management or an outside vendor? | X | | |
| C. Are fire protection devices inspected periodically? | X | | |
| D. Are fire stations identified and extinguishers in serviceable condition? | X | | |
| E. Are fire lanes, doors and fire extinguishers clear of obstruction? | X | | |
| F. Are safety guards in place on power equipment? | X | | |
| G. Are REPAIR STATION shop operations conducted in a safe manner and environment? | X | | |
| 12. <u>STORAGE</u> | YES | NO | N/A |
| A. Are parts and materials properly identified and properly stored? | X | | |
| B. Does the REPAIR STATION have a quarantine area for rejected parts and materials awaiting disposition? | X | | |
| C. Do parts in bin match part number on bins? | X | | |
| D. Are parts & materials properly protected from damage and deterioration? | X | | |
| E. Are flammable, toxic or volatile materials properly identified & stored? | X | | |
| F. Are sensitive parts and equipment (oxygen parts, o-rings, electrostatic sensitive devices, etc.) properly packaged, identified and stored to protect from damage & contamination? | X | | |
| G. Are oxygen and other high-pressure bottles correctly identified and stored? | X | | |
| 13. <u>WORK PROCESSING</u> | YES | NO | N/A |
| A. Does REPAIR STATION have adequate tooling & test equipment to perform the work? | X | | |
| B. If REPAIR STATION uses test equipment that differs from the OEM specified equipment: | | | |
| 1) Is it properly certified as equivalent? | X | | |
| 2) Does REPAIR STATION have operation and maintenance manuals? | X | | |
| 3) Is maintenance and servicing performed per the manual? | X | | |
| 4) Is maintenance and servicing recorded and records retained for two years? | X | | |
| 5) Is equipment listed in the calibration program? | X | | |
| 6) Has equipment been accepted by the FAA? | X | | |
| C. Are mechanics, inspectors and supervisors properly trained, authorized and certified, if required, for the work they perform? | X | | |
| D. Are adequate tools and current manuals available or at the mechanics' work stations? | X | | |
| E. Are customers' parts properly identified throughout the maintenance actions and in storage? | X | | |
| F. Is there a work turnover procedure used? | X | | |
| G. Does the shop segregate serviceable from unserviceable components? | X | | |
| H. Does the facility provide adequate protection of parts in work? e.g. filtered air or clean room depending on type of part. | X | | |
| I. Are smoking, eating and drinking forbidden in the work area as appropriate? | X | | |
| J. Are fluid dispensing cans and servicing units properly identified? | X | | |



| 13. <u>WORK PROCESSING (cont'd)</u> | YES | NO | N/A |
|--|------------|-----------|------------|
| K. Are REPAIR STATION work records complete, in order, and legible? | X | | |
| L. Do the records contain: | | | |
| 7.) The description of the work performed or referenced to data acceptable to the administrator? | X | | |
| 8.) The date of completion of the work performed? | X | | |
| 9.) The name of the person performing the work? | X | | |
| 10.) The name of the person inspecting the work? | X | | |
| 11.) The name of the certified mechanic or repairman who performed or supervised the work? | X | | |
| 12.) The signature, certificate number, and type of certificate of the person returning the article to service? | X | | |
| M. Are all test and inspection records in work package? | X | | |
| N. Does REPAIR STATION record keeping system and retention time meet FAR requirements? | X | | |
| O. Does REPAIR STATION's return-to-service documents meet customer and FAA requirements? | X | | |
| 14. <u>SHIPPING</u> | YES | NO | N/A |
| A. Are components returned in an appropriate shipping container or as specified by the customer? | X | | |
| B. Does the REPAIR STATION verify that identified data (PN/SN/nomenclature/mod.no.) on the parts tag and the data plate match? | X | | |
| 15. <u>SCRAPPED PARTS</u> | YES | NO | N/A |
| A. Does the REPAIR STATION have a documented procedure to assure that scrapped parts are either returned to the customer or mutilated beyond repair? | X | | |
| B. Does the program identify an individual, by title, responsible for verifying that mutilation is accomplished? | X | | |
| C. Does the REPAIR STATION maintain a record of life-limited parts scrapped for seven years? | X | | |
| D. Does the record contain the P/N and S/N of the part and the date scrapped? | X | | |