QUALITY MANUAL

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1. Introduction

Advanced Electronics and Logistics Ltd (AEL) has developed and implemented a quality management system (QMS), which uses ISO 9001:2015 as a framework. This manual describes the quality management system and provides references to procedures and activities.

Its purpose is to familiarise all interested parties with the controls that have been implemented and to assure them that the integrity of our QMS is maintained and is focused on customer satisfaction and continual improvement.

Scope

Our QMS addresses and supports our strategies for:

- The collection, exchange and repair of in-car entertainment and information systems.
- The assembly of automotive keys and locks including the provision of locks and security information to automotive retailers.
- The testing and repair of electronic products, including off site testing.
- The design and development of mechatronic integration systems.
- The supply of spare parts to approved General Motors customers.

There are no ISO9001:2015 requirements that are not applicable to our Company.

AEL is located at:

Qualtronyc Business Park
High Street
Princes End
Tipton
West Midlands
DY4 9HG

About AEL

AEL was established in 1992 and worked with GM to provide a replacement key and lock service and car audio logistics programme in the UK. From 1993 we started electronic repairs and increased the customer portfolio in all areas making us a customer focused specialist in predominantly automotive repair and logistics, adjusting programmes to suit the customer's needs, as well as helping them set up processes.

1997 saw the introduction of an automotive security data service supporting dealers.

In 2011 the Powertrain division of a sister company was integrated into AEL to retain long standing relationships with our customers. Our automotive and electronic expertise has allowed us to design mechatronic integration systems with a diverse customer base.

2014 saw the start of a new venture into consumer radios and this has gone from strength to strength.

Our Mission

The Complete Service Provider

Our Vison

To diversify further into home electronics and the connected car.

2. References

In addition to ISO 9001:2015 we also make reference to other relevant British and/or international standards as well as customer specifications appropriate to our products and market

Standard	Title	Description
BS EN ISO 9000:2015	Quality management systems	Fundamentals and vocabulary

3. Definitions

This document does not introduce any new definitions but rather relies on the following:

1. Definitions typically used by our customers, stakeholders or marketplace;

2. Terms typically used in standards and regulations as they relate to our QMS or products;

3. Standard business terminology;

4. Terms and vocabulary commonly used in quality and <engineering> practices

4. Context of the Organisation

4.1 Understanding the organisation and its context.

AEL has completed a SWOT analysis to determine external and internal issues that can affect the business and achieving its intended results.

The document will be reviewed and updated if any amendments or additions are required as part of planning, auditing, customer complaints, corrective actions or improvements

Risk identified from the SWOT will be added to the Risk Register and Action Plan.

Relevant Documents

SWOT - AEL231

4.2 Understanding the needs and expectations of interested parties

AEL has produced a list of Interested Parties that are relevant to the QMS and their requirements.

The document will be reviewed and updated if any amendments or additions are required as part of planning, auditing, customer complaints, corrective actions or improvements.

Risks identified from the SWOT will be added to the Risk Register and Action Plan.

Relevant Documents

Interested Parties - AEL232

4.3 Determining the scope of the QMS

The scope of the QMS is detailed in section 1.2 of this Quality Manual. It determines the boundaries and applicability of the QMS system to the requirements of ISO9001:2015.

4.4 Quality management system and its processes.

AEL will produce process matrices for each key operational process in the company where the following factors are considered:

- Inputs
- Method
- Resources
- Measures and performance indicators
- Outputs
- Risks
- Control and risk prevention
- Objectives – showing monitoring and control
- Process owner.

In addition generic process flows will be generated for all processes covered by the scope of registration as well as more specific customer flows where needed.

The key operational processes are defined in the Process Matrix document.

There are also Quality Procedures that detail how specific requirements of ISO9001:2015 are met where the Quality Manual does not provide sufficient detail.

All documents are issued through the document control database.

Relevant Documents:

Process Matrix	AEL227
Generic process flow	Appendix 4 - various
Detailed process flow	Visual Aid folder
Quality Procedures	Procedure referenced by the relevant procedure.

5. Leadership

5.1 Leadership and commitment/Customer focus

For the requirements of ISO9001:2015, the Top Management are defined as the Managing Director, Quality Director and the Technical Director, as well interaction from department heads where required.

Leadership with respect to the QMS and customer focus is demonstrated by:

- Reviewing and communicating the quality management performance through Board, production and quality meetings, introducing improvements where needed, sharing KPI data and focusing on customer satisfaction.
- Involvement in setting quality objectives for the business and reviewing and sharing their effectiveness.
- Following a cross functional Advanced Quality Planning (AQP) process when setting up or changing processes – these will ensure that risk based thinking is applied, resources are available, customer and regulatory requirements are determined and the risks and opportunities that affect customer satisfaction and product conformity are met .

Relevant Documents:

Meeting minutes	Board/Production/Management Review	
Quality Objectives	AEL230	Form

AQP form	AEL002	Form

5.2 Quality Policy

The Quality Policy has been agreed by Top Management and takes into account the requirements of ISO9001:2015.

It will be reviewed for suitability at least annually at Management Review.

The document is available in this Quality Manual as an appendix and appears on the intranet all employees to view.

Any changes to this document will be notified to staff and updated on the intranet.

Relevant Documents:

Quality Policy	Appendix 1

5.3 Organisational roles, responsibilities and authorities

The key responsibilities affecting quality for each role are documented as an appendix to this document.

Relevant Documents:

Roles and responsibilities	Appendix 10

6. Planning

6.1 Actions to address risk and opportunities

Risks form an integral part of the QMS systems and appear in various processes.

When planning new products or processes risks shall be considered as part of the Advanced Quality Planning (AQP) process.

In addition risks will be considered when completing a SWOT analysis, identifying Interested Parties and completing a process matrix.

Risks will be considered when audits, complaints and corrective actions are raised/completed.

Outcomes are added to the Risk Register and rated.

Any risks identified as high will be added to the Risk action plan. This will be reviewed as part of Management Review and any opportunities for improvements will be highlighted.

Relevant Documents:

AQP document internal/process	AEL002	Form
SWOT analysis -	AEL231	Form
Interested parties summary -	AEL232	Form
Risk Register -	AEL228	Form
Risk action plan -	AEL229	Form
Complaints/Corrective actions –	AEL019	Form
Internal audits		
Management review		

Flowchart	AEL876	Visual Aid

6.2 Quality Objectives

SMART objectives will be defined for each process within the Scope and will be generated with each process matrix. The objectives will be available as an appendix in the Quality Manual and for all staff to view on the intranet.

The resources required and process owner will be identified on the process matrix.

Each department will be aware of their individual target from their process matrix which will be available in their department.

When any new risks are identified they will be considered and may be added to the Objectives matrix.

The Quality Objectives will be reviewed as a minimum at Management Review.

Relevant Documents:

Risk Register -	AEL228	Form
Risk action plan -	AEL229	Form
Management review		
Quality Objectives -	AEL230	Form

6.3 Planning for Change

AQP templates are used for new projects/internal changes where deemed necessary by the Quality Director. Alternatively a meeting takes place with a supporting action plan to ensure the successful implementation of changes. Regular updates are held to monitor progress to completion.

The actions and updates are documented

Relevant Documents:

AQP document – internal/process	AEL002	Form
Action plans		

7. Support

7.1 Resource

The AQP process considers any resource requirements to achieve planned results. Requirements are then reviewed and improved as part of meetings.

Some of the resources considered are skills, equipment, infrastructure, people, and training.

Corrective actions and audit actions could also trigger an improvement/change in resources. These are reviewed at Board Meetings.

Relevant Documents:

AQP document – internal/process	AEL002	Form
Action plans		
Corrective actions/Complaints. -	AEL019	Form

Audit feedback -	AEL016	Form

7.1.5 Calibration

Measurement equipment will be used to validate product either during or at the end of the process in the electronics division.

Each piece will be inspected and tested using externally verified master equipment which is traceable to national standards.

Each piece will have a unique number assigned and record maintained of results/changes.

Relevant Documents:

Calibration register

7.2 Competence – training

Skills matrices are available in each department and identify the key skills of each member of staff in that area.

Each matrix is updated on a regular basis and reviewed as part of the audit process.

There are generic job descriptions in place for all roles including responsibility for quality.

Details of qualifications are retained in each person's file.

A training plan keeps a record of any external training that takes place.

Relevant Documents:

Training Matrix -	AEL048	Form
Training plan		
Generic job descriptions		
Personnel file		
Flowchart	AEL877	Visual Aid

7.3 Awareness

The Quality Manual is available on the intranet on all PCs and contains the Quality Policy and Quality Objectives.

Copies of key information are available on noticeboards

A copy of the Quality Manual will be available on request and posted on the company website

7.4 Communication

AQPs identify when to communicate to staff as well as customer requirements and any legal requirements.

KPIs are visible to both staff and customers and discussed in production, board and customer meetings.

Internal memos/emails are also used to communicate all aspects of the business to staff.

Relevant Documents:

AQP –	AEL002	Form
KPI data		

Memos

7.5 Document Control

Documents are issued through the document control database. This bespoke software controls the recording and issue of documents and is stored on the server.

Records are kept for a defined period and master information stored on the server.

Example documents are as follows:

Visual aids	Bulletins
Work instructions	Quality forms
Customer software	

Other IT related documents are stored on the internal servers and are controlled by the IT department.

Design and development software is controlled by the Technical Director and is issued a new issue number each time a revision is made as well as a revision document detailing the reason.

Related Documents

Document control database

IT servers

Design and Development

Flowchart	AEL878	Visual Aid

8. Operations

8.1 Operational planning and control

The AQP document determines the process using a generic flow where possible.

Repairs systems and works orders show that processes have been performed and each stage is checked off electronically or manually signed in the case of works orders.

Outsourced work receives an incoming inspection before use and a record is maintained of this check.

Related Documents

AQP documents -	AEL002	Form
Contingency documents		
Flowchart	AEL879	Flowchart

8.2 Requirements for production and services

The AQP process ensures all production requirements are clearly established. Statutory and regulatory requirements are considered.

Customer property is labelled to make staff aware and to ensure it is not unintentionally used elsewhere.

Contingency plans are available for each key area of failure.

Weekly production meetings ensure work is flowing to meet customer requirements

Related Documents

AQP record – AEL002 Form

8.3 Design and Development

There is a design AQP and process AQP document used for any new projects. Details of results are documented at all stages and any actions that are required and reviewed during the process until completed.

All documentation is stored in one place on the server by AQP number to ensure traceability.

Any changes are documented on the AQP including the reason for change

Related Documents

AQP record process and design – AEL002 Form

Design records – software and hardware files.

8.4 Control of Suppliers & External Processes.

The majority of suppliers and by AEL are either the OEM or nominated by the customer. If not the first requirement is for the supplier and subcontractors is to be ISO9001 certified. If they are not, a supplier questionnaire is supplied and their suitability to supply based on this and/orsamples.

Details of all suppliers or subcontractors are listed on an approved suppliers list.

If there are any ongoing issues with suppliers these are highlighted at the point they happen - corrective actions would be raised for poor quality parts/product being received.

The top suppliers by spend have their performance reviewed in Management Review meetings. Any actions for improvement are noted at this point.

The approved supplier list is reviewed at least annually and any ISO9001 certificates verified if the expiry date is due.

Purchase orders raised clearly state the part and quantity required including any specific requirements.

All incoming product is checked for suitability by part number and quantity as a minimum. Where subcontractors process product, clear information is supplied and an inspection process will be decided based on requirements.

Related Documents

Purchase orders

Approved supplier list

Approved supplier form –	AEL031	Form
Flowcharts	AEL882/AEL883	Visual Aid

8.5 Production and service provision

The AQP process and production meetings ensure planned results are achieved.

Unique job number and/or serial numbers are used to identify and trace all products. Each stage is visible by the paperwork that is with the unit and/or the unique barcode that is attached to the unit and colour coded/labelled areas i.e quarantine = red, green = awaiting despatch.

There are flowcharts of each process and instructions where required. They will be available in the work area for staff to use.

Test equipment is covered under a calibration and inspection process. Customer equipment is labelled.

Product is stored during its process to ensure that it is not damaged using suitable boxes, stands, trolleys etc. It is shipped in suitable packaging.

Related Documents

Flowcharts

Visual aids

Work instructions

8.6 Release of products and services

All computer systems show who has authorised the product to the next stage of the process. Each stage must be completed to allow the next stage to be accessed.

Works orders show who has approved the part for the next stage of the process and the release of parts.

Key and Lock department - the person building locks that day is the person approving release of parts. A record is maintained of who builds locks each day.

Related Documents

Various computer job systems

Works orders

8.7 Control of non-conforming outputs

Rework forms are maintained in the PTS Flyer department and Roberts repair.

Scrapped parts in Keys and Locks are recorded to monitor for trends

Quarantine areas are available in all departments to store non-conforming product.

There is a documented procedure for non-conforming product/processes and corrective actions (CAR).

These are reported on in Board Meetings.

Related Documents

Rework form -	AEL012	Form
Corrective actions -	AEL019	Form
Board Report		
Flowchart	AEL880	Visual Aid

9. Performance Evaluation

9.1 Monitoring, measurement, analysis and evaluation including customer satisfaction

Monitoring, measurement and analysis requirements are established initially at AQP – both internal and external.

Audits review how a process is monitored to be effective.

KPI data is produced and discussed at customer, production, board and quality meetings. Changes to method of type of monitoring may be decided at these meetings or as a result of CAR/Audits.

Customer satisfaction is monitored through repeat business, complaints and regular meetings.

Related documents

AQP -	AEL002	Form
Meeting minutes		
KPI data		

9.2 Internal Audits

Internal audits are performed as a minimum against all processes covered under the scope of registration over a three year period. They will be planned looking at the importance of the process and any historical data i.e CAR raised, customer complaint, quality issues, low volumes.

The audits are planned on a timetable and updated as required when a new product/process is implemented.

The relevant process matrix and any process flow charts are used to assist the audit.

Any parts not included on the QMS are conducted on a separate QMS audit sheet annually.

Audits are reported in the Board Meeting and results issued to the relevant people affected by the process.

Related documents

Audit timetable	AEL015	Form
Audit feedback `	AEL016	Form
Process audit	AEL175	Form
CAR	AEL019	Form
Internal QMS Audit	AEL206	Form
Flowchart	AEL884	Visual Aid

9.3 Management Review

Reviews of AEL's performance relating to quality by top management shall take place at any of the following.

Board Meeting

A monthly board meeting where quality costs, audit results, customer visits / audits and complaints are discussed

Management Review

A full review of the Quality Assurance Programme shall be performed at a minimun, annually at a formal meeting chaired by the Quality Director.

The meeting shall be attended by senior management representatives from all departments.

The purpose of the review shall be to

Assess the continuing suitability and effectiveness of the quality management system

Determine areas for improvement or where changes are required

Review the quality policy and quality objectives.

Related documents

Board meeting minutes/agenda

Management review minutes/agenda

PowerPoint presentations – board and management review

10. Improvement

10.1 General

Improvements are identified as part of the SWOT analysis, interested parties, process matrices and audits. In addition management review and other meetings i.e Board and production may highlight improvements.

10.2 Non-conformity, corrective actions and complaints

Customer complaints, internal audit non-conformities and corrective actions are recorded on AEL019 and records maintained as well as a summary index for reference and analysis.

The details are summarised in the Board Meeting and shared with relevant parties at the time they are raised.

The document ensures all areas are considered and any QMS changes are implemented as well as SWOT/interested parties or process matrices that may need updating.

Related documents

CAR/Complaints document	AEL019	Form
CAR Register		
Board meeting minutes		
Flowchart	AEL885	Visual Aid

10.3 Continual Improvement

Management review meetings analyse trend data and identify opportunities to improve as well as ongoing audits.

Any improvements are documented at the meeting also.

Related documents

Management review minutes

Issues and Amendments

Section	Reason	New Issue No
Quality Manual – complete	Reissue to ISO9001:2015	Issue 7 Rev 0