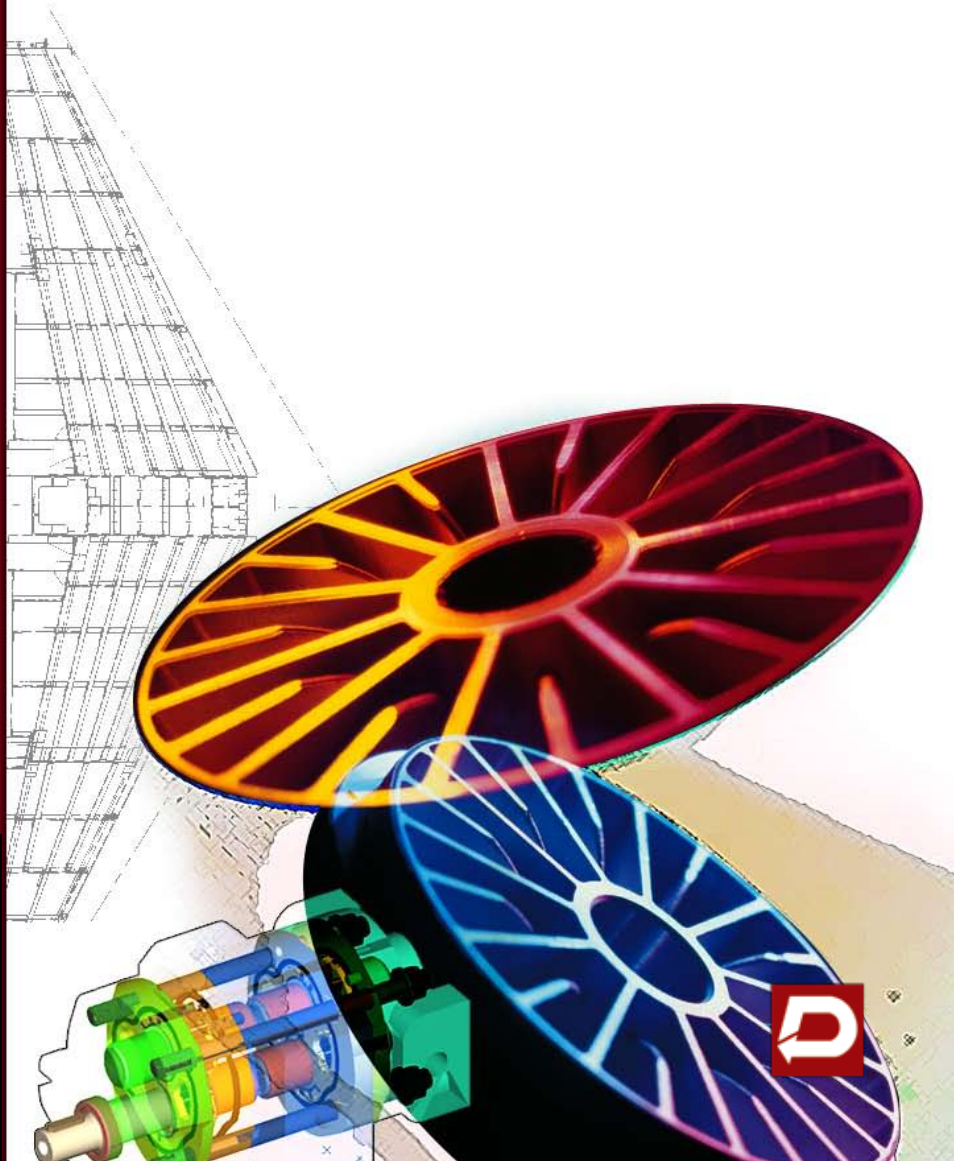
SUPPLIER
QUALITY MANUAL

A DYNAMATIC® MANAGEMENT SYSTEM (DMS) DOCUMENT



INTRODUCTION

The manual is meant as a Quality Management System (QMS) reference guide for the suppliers of Dynamatic Technologies Limited (DTL).

DTL does appreciate the fact that suppliers are in the best position to design their quality systems to suit their particular requirements. The intention of this document is to communicate the minimum requirements that are expected from the suppliers' QMS.

Conventional Supply Chain tools have to change to meet today's dynamic and competitive business environment.

The need of the hour are supply chains that are efficient, **lean and reliable**, demand-driven and transparent. The quality system has to become more resilient, focus on **risk management** and **effective communication, that is timely and accurate.**

To prosper in today's economic conditions, we must be dedicated towards **continual improvement**. We must constantly seek more **cost -effective** ways to produce our products and services. Not only that, these products and services must exhibit continuous improvement in value.

To accomplish this, the suppliers (who are the central part of the supply chain) must be committed to continuous improvement and to the use of effective quality management systems.

Note: If you have any specific queries about SQM, please direct them to the SQM Team at psr@dynamatics.net

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QUALITY POLICY

Dynamatic Technologies Limited is involved in the design and manufacture of highly engineered components and systems for Hydraulic, Aerospace and Automotive applications.

1. It is our policy to provide creative and innovative solutions to delight our customers at cost-effective prices on a continuous basis.

2. By delivering superior value to our customers, we build a successful business model for ourselves, capable of returning high yields to investors and improving the quality of life of all employees.

3. All processes will be eco-friendly and be designed to eliminate wastage, and all employees will strive to constantly expand the boundaries of knowledge through imagination and diligence.

4. This policy is implemented through our Dynamatic Management System, which operates in accordance with ISO 9001 for Dynamatic® Hydraulics, AS 9100 for Dynamatic Aerospace® and TS16949 for JKM Automotive™.

Udayant Malhoutra
C.E.O. & Managing Director

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1. QUALITY MANAGEMENT SYSTEM

1.1. General Requirements

Dynamatic Technologies Limited (DTL) is committed to assuring its customers the quality of the products manufactured in-house, made at its suppliers' place and bought from 3rd parties.

1.2. Applicability

This Supplier Quality Manual and the associated requirements of ISO - 9001:2008 are applicable to all suppliers and to all products and services which are supplied.

1.3. Essential Elements

This Supplier Quality Manual defines the essential elements of a Quality Assurance System (QAS), which a supplier must have established and maintained in order to be able to comply with the requirements of Dynamatic Management System (DMS).

DTL acknowledges that many suppliers are registered or are currently pursuing registration / compliance to standards audited by third party registrars (such as ISO 9001, TS 16949 or one of its equivalents). Those elements of their Quality Assurance System which are not dealt with in detail in this SQM are to be taken as required from ISO 9001:2008 standards.

The Quality Assurance System of the supplier, including procedures, processes and products, shall be clearly described and presented as appropriate documentation.

The Supplier's Quality Management System is auditable by DTL

If there are contradictions between the DTL Purchase Order or their general specifications and the requirements in the Supplier's Quality Assurance System, the Purchase Order and the general specifications shall be the determinant.

1.4 Inspection of the Parts Received

DTL reserves the right to inspect products / parts received from the suppliers and also the work associated with the products / parts at any time or place, to monitor compliance with the Purchase order.

Regardless of whether or not DTL decides to perform a source inspection at the supplier's works, the supplier shall allow DTL Quality

personnel access to all production facilities where work is being carried out against the Purchase Order. He shall also make suitable inspection facilities available and provide assistance as necessary. The Supplier shall also ensure the safety of the DTL personnel.

1.5 Right of Withdrawal

When the Products or service do not comply with the essential inspection and acceptance criteria, DTL reserves the right to withdraw the Purchase Order, at any time, if the supplier is not in a position to rectify the deficiencies discovered within the period specified by DTL.

2. SELECTION OF SUPPLIERS

Before placing an order, the QA system of the supplier is required to be audited. To ensure that this QA system is maintained effectively at all times, periodic audits may take place.

QA procedures, documentation forms, test equipment, methods and techniques, drawings and other activities related to quality shall be the objective of such an audit, with DTL having the right to raise objections at any time.

In case of minor deficiencies, the supplier may be given a conditional approval in conjunction with permissions to continue the work.

Contracts / Orders which have been awarded, including individual work processes, may not be passed on to third parties or to areas of the works not inspected or approved by DTL, without the prior written agreement of DTL.

The supplier is responsible for ensuring, in all these cases, that the relevant technical requirements suggested in this document and also the requirements specified in the Purchase Order are complied with. The supplier shall obtain appropriate certification in this respect from his sub-suppliers.

If any proposed changes by the supplier can jeopardise compliance with the requirements of these documents, such as changes in the areas of responsibility of the quality assurance, extension of production facilities, etc., the supplier shall inform DTL without delay.

3. PRODUCT REQUIREMENTS

3.1 Workplace and Training

Personnel who perform activities which require certification, either by the supplier or in accordance with the DTL procedures, shall be suitably trained and this training shall be certified. Personnel from the quality department of the supplier who carry out the inspections or tests shall also be suitably trained and qualified.

3.2 Acceptance Certificate

The supplier shall provide an inspection certificate for all products delivered to DTL.

This document shall certify compliance of the delivered products with the requirements of the Purchase Order, the applicable standards, specifications, drawings and quality assurance system.

If the Purchase Order requires physical or chemical test certificates, the supplier shall supply a test certificate and each test certificate shall be signed by a member of the supplier's management. The certificate shall provide a precise description of the test. Impressed or stamped signatures are not acceptable. Where specified in the Purchase Order, test data sheets, including all records of test data, shall accompany the delivery.

3.3 Statutory Compliance

Supplier shall take responsibility of the disposal of their hazardous and chemical waste as per the rules and regulations of the "Pollution Control Board".

4. SUPPLIES AND SERVICES

4.1 Products provided by DTL

Material supplied by DTL shall be checked for proper condition before processing (for damage in transport), dimensions (for raw material), quantity and compliance with the delivery documentation. Any deviation shall be reported without delay to DTL. Defects which occur during manufacture, which can be clearly traced to products supplied by DTL, shall be reported to us immediately.

The use of material other than those supplied by DTL is permissible

only with prior written permission. The products remain the property of DTL and may be used only for the purpose stated in the Purchase Order.

All bought-out products and products checked by the suppliers' receiving inspection department shall be clearly marked as 'accepted' or 'rejected'. The rejected parts shall not be mixed with the accepted lots.

5. PROCUREMENT DOCUMENTS

5.1 Procurement of Raw-materials

Whenever the supplier is buying raw material, he shall insist upon and collect chemical composition certificates from the source.

Also, hardness and Heat Treatment conditions shall be ensured as necessary.

A mere written statement that the procured materials meet specifications is not acceptable.

6. SPECIAL PROCESSES

Special processes (e.g. heat treatment as well as metallurgical or non-destructive test procedures) shall be qualified by the supplier using a written, specified procedure and shall be periodically monitored.

The qualification and monitoring system shall ensure that the personnel who are to perform the processes, the processes themselves, the process materials, the solution used, the operating materials and documents, as well as the products manufactured, correspond to the specifications in every case. The following minimum points shall be complied with:

6.1 The marking of the process chemicals

6.2 Periodic monitoring of personnel, process materials, solutions, operating materials and plant.

6.3 The maintenance of records on any tests performed, as well as any rectification.

6.4 The special processes shall be qualified on introduction, anytime where substantial corrections are made and also at suitable intervals, using test specimens. The qualification shall be recorded.

The special processes and operating materials used by the manufacturer, and also the training of the personnel shall be to the state-of-the-art and comply with comparable, recognized national standards and specifications and shall also comply with this document.

7. INSPECTION OF FINISHED DETAIL PARTS

7.1 First Article Inspection

7.1.1. Where specified in the Purchase Order/Schedule, the supplier shall submit a product which has been manufactured under series-production conditions to the DTL Quality Department as a First Article.

7.1.2. The First Article Inspection includes a full inspection of the finished product. The measured values shall be recorded on the DTL Inspection Certificate. The original must be submitted by the supplier, along with the products to DTL. The inspected and recorded product shall be labeled "First Article" and marked with the DTL part number.

7.2. Series Production

Manufacturing Control Plans shall be prepared, to indicate the sequence of manufacturing operations and the details of the major processes involved.

The extent of documenting a Control Plan depends on the complexity of the manufacturing operations and also the skill / knowledge level available with the supplier.

Before the delivery of a series-production lot, the supplier shall submit a batch of parts which are representative of that production process, along with PPAP documents. **(Refer Annexure - C).** The inspected and recorded products shall be labeled as "PPAP batch" and be marked with the DTL part number.

The supplier shall perform following activities to assure DTL that the product being supplied is as per specification:

a) Supplier is responsible for submitting an Initial Sample Inspection **Report (See Annexure - A)**

b) Supplier has to provide capabilities on all key characteristics whether produced internally or by his supply chain. Documentation requirements are listed in **Annexure-B**. The verification process prior to shipping products is documented in the quality plan.

c) DTL requires a conformity certificate, in case the process capability of the suppliers' process is below 1.67 Cpk.

d) Layout Inspection for Castings : All product characteristics shall be measured annually at a minimum to demonstrate conformance to specified requirements. Layout inspection and dimensional inspection is mandatory for all castings at least once a year.

8. TOOLS, GAUGES AND DEVICES

Tools, gauges and devices supplied by DTL to the supplier may not be altered, reworked or modified without the prior written permission from DTL. The supplier accepts full responsibility for all tools, gauges and devices supplied by DTL including periodic inspection for excess wear, tear, damage and missing parts.

Production gauges, devices and test and inspection equipment shall be checked for accuracy before being first used and shall be subjected to periodic re-inspection and calibration at specified intervals.

Production gauges and devices shall comply with the master gauges throughout the entire period of use under the contract / order. The supplier shall maintain objective proof of complete monitoring and servicing.

Unless otherwise agreed in the Purchase Order, production gauges manufactured for or provided by DTL will remain the property of the DTL. On completion of the contract / order they shall be returned to DTL in a serviceable condition.

9. STORAGE, PACKAGING AND TRANSPORT

9.1 Storage

Products provided by DTL, the assemblies produced from them as well as the tools, production gauges and devices shall be stored separately from the stocks of the supplier or other customers.

9.2 Residual Material

Any residual material shall be returned. Exceptions must be agreed to in writing. In such a case the residual material shall be kept separate

from the company's stocks and disposed of in accordance with our instructions. Residual material may not be used for follow-on contracts without our written permission.

9.3 Protection and Packaging

The supplier shall ensure that the quality of the product and its identification are preserved from initial stage up to its delivery destination. At all stages, the product shall be free from dents, damage, rust, stain mark, dust and metal particles.

10. NON-CONFORMING PRODUCTS

10.1 Defect Recording

If the supplier finds a deviation from the drawing, specification or other contract requirement in products produced for DTL, he must record and submit it to DTL for disposal.

10.1.1 Non-conforming products are to be regarded as unacceptable and are to be removed from production, suitably marked and separately stored, until disposal and release by the DTL Salvage Board. A non-conformance report for sub-contracts approved by DTL must be submitted before the non-conforming products are dispatched to DTL

10.1.2 The supplier may only carry out rework on non-conforming DTL products, in accordance with existing drawings, specifications or non-conformance reports approved by DTL.

10.2 Delivery of Non-Conforming Products

Products which have been reworked according to DTL disposition shall be inspected by the supplier before delivery/acceptance to ensure that the rework has been correctly carried out.

11. MAINTENANCE OF DOCUMENTS

All records and documents shall be retained by the supplier for 3 years or as specified in the DTL Purchase Order, after delivery of products / assemblies. These documents shall be made available to the DTL Quality Assurance department at any time,on demand. Once the required storage period elapses, the supplier shall inform the DTL QA department before destroying the documents.

12. TRACEABILITY AND IDENTIFICATION

Where applicable, traceability of raw material test results and heat treatment test results should be maintained for every batch of supply. Any other specific customer requirements should also be complied with.

Product identification requirement shall be maintained as communicated in the drawings, specifications etc. The method of indicating and its location on the item should be pre-established and followed consistently. Such information should be indicated in the Manufacturing Control Plan/Inspection Plan/Drawings.

13. CORRECTIVE AND PREVENTIVE ACTION (CA/PA)

The supplier should have a system for initiating corrective and preventive actions, as also for ensuring the effectiveness of the corrective and preventive actions, against:

1. Any complaint from DTL or DTL's customer.
2. Any non-conformance detected during an audit check at DTL

The CA/PA taken should be briefly documented and should be communicated to DTL.

14. MATERIAL HANDLING

a) Careful material handling is important to prevent dents, damages and scratches, etc. from happening on the precision parts supplied to DTL and also to ensure that the sharp edges do not cause difficulty or harm to the one who is handling them.

b) DTL insists on proper wrapping or sealing of the parts during transit or transportation to prevent corrosion. Where necessary, bins exclusively designed for the handling of each type of components should be used.

15. CONTAMINATION CONTROL

a) Since DTL parts are used in high-precision hydraulic assemblies with close clearances, the components should be thoroughly cleaned and packed before dispatches.

b) Each and every component supplied should comply with the DTL

cleanliness standards to avoid any further damages to DTL pump or valve assemblies and also to DTL customer's hydraulic systems in which these pumps or valves are fitted.

16. REJECTION MANAGEMENT

Items received from suppliers are inspected by the DTL Receiving Inspection Department and non-conformances are reviewed. If the items are decided to be scrapped, such items will be rejected via the GRNs and scrapped physically.

Rejection analysis will be done. In the event where it calls for the suppliers' attention, they will be informed to take necessary corrective action for major re-work and rejections.

17. SUPPLIER PERFORMANCE RATING

Supplier performance rating is carried out once in six months or as and when required for approved suppliers. Supplier rating is based purely on quality & delivery performance.

Suppliers shall be rated with points on the following basis:

Quality

a) 5 points – All parameters as per drawing with self-inspection report.
b) 4 points – All parameters as per drawing without inspection report
c) 3 points – Accepted after minor rework
d) 2 points – Accepted with concession based only on critical parameters
e) 1 point – Accepted with segregation / major rework

Delivery

a) 5 points – 90 – 100% Receipt quantity within ±7 days of scheduled delivery date
b) 4 points – 81 – 89% Receipt quantity within ±8 days of scheduled delivery date
c) 3 points – 61 – 80% Receipt quantity within ±9 days of scheduled delivery date
d) 2 points – 41 – 60% Receipt quantity within ±10 days of scheduled delivery date
e) 1 point – 21 – 40% Receipt quantity within ±11 days of scheduled delivery date

Rating Results

a) 95 % and above – Excellent
b) 80% to 95% – Good
c) 60% to 80% – must improve
d) 59% & below – unsatisfactory

Suppliers with percentage ratings of less than 60% shall initiate the necessary action to improve his QA system in close cooperation with the DTL inspection group. Supplier rating will be available on request for the suppliers.

18. D.O.L. (Direct On Line) System

The Purpose of issuing D.O.L. status to a supplier is to accept his material without dimensional inspection and testing. This will not only expedite the goods-inwarding process but also facilitate fast processing of payments to suppliers.

a) Requirement for D.O.L Status

The suppliers' past performance shall be the basis for including a supplier in the list. There should not be any deviation, rework, rejection in the past ten supplies.

The supplier shall be capable of bearing the consequential liabilities for poor product quality, if any.

a) DTL Incoming Q.C. section does only visual inspection and verifies documents.

b) If rejections are found on the line or at DTL customer's place, the supplier shall replace the defective parts with fresh conforming parts.

c) In case of non-conformance, corrective action & preventive action shall be given by Supplier to DTL Incoming Q.C.

d) Periodic review of processes shall be carried out at the supplier's end by DTL QA / Materials to ensure adequacy of the process to meet the requirement.

e) If the items are rejected more than twice from the same supplier, the supplier will be lose the D.O.L status and he will be put back into the regular inspection mode.

19. CODE OF CONDUCT FOR SUPPLIERS

DTL is committed to providing genuine value to its customers. DTL is guided by its core values of integrity, quality, innovation and commitment through performance and expects similar commitment from all its employees, dealers, suppliers and all other business partners.

DTL suppliers are expected to operate within the guidelines of the following Code of Conduct to ensure that they and their sub-suppliers, follow ethical and proper business practices.

Failure to comply with this Code, may result in discontinuance of business relationships.

19.1 Child Labour

DTL will not engage in or support the use of child labour. Suppliers are expected to comply with the applicable child labour laws. Suppliers should employ only workers who meet the applicable minimum legal age requirement for their respective locations.

19.2 Forced Labour

DTL will not engage in or support the use of forced or involuntary labor. DTL will not purchase material or services from a supplier utilizing forced or involuntary labour.

19.3 Compensation and working hours

Suppliers are expected to comply with all applicable wage and labour laws and regulations governing employee compensation and working hours.

19.4 Discrimination

Suppliers are expected to comply with all applicable laws concerning discrimination in hiring and employment practices.

19.5 Environment

DTL believes in being an eco-friendly enterprise and conducts its operations in compliance with applicable laws and regulations. Suppliers shall conduct their operations in a way that protects the environment. Suppliers are expected to comply with all applicable environmental laws and regulations of the State and Central Governments.

19.6 Health & Safety

DTL is committed to the safety and health of its employees and conducts its operations in compliance with the applicable laws and regulations. Suppliers are expected to provide a working environment that supports accident prevention and minimizes exposure to health risks. Suppliers are expected to comply with all applicable safety and health laws and regulations advised by the State and Central Governments.

19.7 Compliance to Trade Laws

DTL is committed to complying with applicable laws concerning proprietary, confidential and personal information. Suppliers are expected to comply with all applicable laws and regulations governing the protection, use and disclosure of DTL proprietary, confidential and personal information.

Supplier shall comply with the requirements of the Pollution Control Board and other statutory requirements on environment.

19.8 Non Disclosure Agreement

The supplier shall not disclose directly or indirectly and in any form whatsoever, the information to any third party such as design, know-how, processes, product specifications, trade secrets, market opportunities, financial affairs, etc. Where insisted upon by the DTL Purchase Department, the supplier shall sign the Non-Disclosure Agreement (NDA) with DTL. The NDA copy may be obtained from the DTL Purchase department.

20. INNOVATION, CONTINUAL IMPROVEMENT AND VALUE ENGINEERING

The cost of manufacturing should reduce year by year and this can happen only when one looks into the process, tools used, machines utilised, etc.

Value engineering for all proprietary components is necessary. Innovative thinking can also lead to continual improvements and tools such as 6-Sigma, Lean, etc. are to be deployed where necessary. In the competitive market situation these become necessary for survival.

ADAPTATION OF LEAN MANUFACTURE

by
N Gopalakrishnan

N Gopalakrishnan is the author of the recently published *'Simplified Lean Manufacture: Elements, Rules, Tools And Implementation'*, a concise, compact text which discusses the concepts of value and waste, and, outlines how organisations can use Lean Manufacturing to improve delivery times, manufacturing costs, minimise inventory and raise profitability.

Gopal has been associated with Dynamatic Technologies since 1994 when he joined Dynamatic® as the Chief of Operations. He was, subsequently, appointed to the Board of Directors as Executive Director responsible for the Company's operations in Bangalore, a position he held till his departure in 2002. He continues to remain a part of the Dynamatic® family.
N Gopalakrishnan is currently the President of Projects India.

21.1 General

The MPSO (Manufacturing Process Sign Off) is a review of the organization's manufacturing process at a demonstrated line production rate. During such review the process shall be critically reviewed to eliminate waste in the process with a view to reduce cycle time and improve productivity. Its purpose is to verify the organization production process readiness and assure complete understanding of program requirements. The MPSO shall be performed as directed by the Sourcing Team

21.2 Review of Supplier Manufacturing Process

The first step of the MPSO process is to schedule a review meeting with the organization and the Sourcing Team for explanation of the MPSO and what is expected from the supplier to successfully meet the requirements.

A MPSO shall be performed on site at organization's manufacturing facility as deemed necessary by the Sourcing Team. The review shall consist of detailed observation and validation of the organization's manufacturing process capabilities and corresponding documentation.

21.3 Process Documentation

21.3.1 Process Maps

Supplier's process shall be mapped using appropriate symbols and indicating parallel process if any. During the process mapping the supplier shall study each process step to identify steps which are

not adding value (waste) and eliminate all such process steps. The Improved process maps shall be available at a convenient location for use by all concerned. Process maps shall be reviewed every 3 months to continuously improve the process.

21.3.2 Standard Operating Procedure (SOP)

Supplier's manufacturing process maps shall be supported by Standard Operating Procedure clearly showing the process followed step by step. SOP shall indicate conditions of manufacture, jigs/fixtures,gauges, etc. SOP shall define quality check points,their frequency and methodology used for measurement.

21.3.3 Process Change Request

A Process Change Request form must be submitted and approved if any of the following occurs.

- Change in the manufacturing process and or tooling
- Additional tooling or added cavities to tooling currently approved for mass production
- Manufacturing location changes
- Sub-supplier changes

21.3.4 Process Sign-off

The sign off takes place during PV (Production Validation) build or as deemed necessary by the Sourcing Team. Acceptable completion of the MPSO authorizes the organization to proceed with the PPAP submission. If any non-acceptances are noted, then the MPSO remains open. Corresponding corrective action shall be submitted by the organization and validated through a re-visit and/or re-evaluation by the Sourcing Team for BPSO closure.

21.4 Work Place Organisation

Supplier shall organize the work place and maintain high cleanliness standards. Machinery and equipment used during manufacture shall be kept clean and well maintained. Raw-materials, tools and finished goods shall be stored in suitable locations with clear labels. Materials returned as defective are to be clearly identified and kept in a designated area. Documentation used should be updated regularly and available for reference at all times. Clear visible communication such as Process maps and quality standards shall be maintained in the work place. The operators and managers shall be trained in work place organization

21.5 Measurement System Analysis (MSA)

The Supplier shall perform measurement system analysis (frequency to be determined by the supplier) in accordance with the manual. Other analytical methods and acceptance criteria may be implemented with approval by the Supplier Quality Representative. Results of MSA analysis shall be documented and retained at the organization's location. This information shall be available upon request by the Sourcing Team.

21.6 Total Productive Maintainence

The supplier shall implement TPM program for process machine/ equipment as outlined (as a minimum) in the ISO/ TS16949 manual. Statistical data should be assimilated and systems developed for the implementation of predictive maintenance programs. The organization shall document and maintain this program and it shall be available upon request by the Sourcing Team. Supplier shall keep record of machine down time and demonstrate process followed in reducing such down time. Action plan to reduce down time shall be maintained and reviewed by the supplier. This information shall be available upon request by the sourcing team.

21.7 Continual Improvement Process

The organization shall implement lean manufacturing /continual improvement efforts throughout their entire organization. Results of such Continual Improvement Process shall be documented and retained at the organization's location. This information shall be made available upon request by the Sourcing Team.

Annexure A

INITIAL SAMPLE INSPECTION REPORT

DTL		DQF QC 18

TO BE FILLED BY SUPPLIER Date :

PART	SUPPLIER NAME:
PART No.	GRN / DC Ref :
Issue No.	SAMPLE SIZE :

REASONS FOR SUBMISSION

☐New Development ☐Change of Mold / Die ☐Modified part

☐Material SPEC changed ☐Tooling not used for 12 months ☐Quality Problem

☐Production process changed

Sl. No.	ITEMS	JUDGEMENT			ANNEXURE NO.
1	Dimension Inspection Report	☐Accepted	☐Not Applicable	☐Others	
2	Material Test Report (M.S.)	☐Accepted	☐Not Applicable	☐Others	
3	Outside Lab Reports	☐Accepted	☐Not Applicable	☐Others	
4	Others	☐Accepted	☐Not Applicable	☐Others	
Supplier's Overall Judgement		☐Accepted		☐Others	

Prepared by Approved by

The above part meets all the specification of DTL and it is confirmed by our inspection and testing

TO BE FILLED BY DTL

Sample Disposition ☐Accepted ☐Rejected ☐Interim approval

Remarks

Prepared by **Approved by**

Inspector - Inward QC **Head – Inward Q.C.**

Annexure B

PART APPROVAL - INITIAL SAMPLE INSPECTION REPORT (ISIR)

Part Number	**Part Name**
Design Change Level	**Supplier Code**
Supplier Name	**Lab Report Attached ? Yes ? No**
Date	**Drawing No.**
	Project.:

Sl No	Dimension / Specification	1	2	3	4	5	Remarks	DTL Verification

Supplier Signature:

Date:

Annexure C

PRODUCTION PART APPROVAL PROCESS (PPAP)

Unless otherwise specified, DTL requires Section I.4 Level 2 of the AIAG PPAP (3rd Edition, September 1999) to include the following:

Requirement	Level 2	Completed by
Design records of saleable product	S	
-for proprietary components / details	R	Prior to production
-for all other details / components	S	Prior to production
Engineering change documents, if any	S	First production
Customer engineering approval, if required	R	Prior to production
Design FMEA	R#	Prior to complete design
Process Flow Diagrams	S	Prior to production
Process FMEA	R	Prior to control plan
Dimensional Results / ISIR	S	Along with samples
Jigs, Fixtures / Clamping photos	S	In first production
Material, performance test results	S	Prior to production
Initial process study – capability study	R	Prior to control plan
Gage R&R, Measurement System Analysis Studies	R	In First production, prior to use
Qualified Laboratory Documentation	R	Prior to production
Control plan	S	Prior to production
Part submission warrant (PSW)	S	Prior to production
Appearance approval Report(AAR), if applicable	S	Prior to production
Bulk material requirements checklist(for Bulk material PPAP only)	R	Prior to production
Sample product	S	Prior to first production
Master sample	R	Prior to production
Checking aids	R	Prior to production
Records of compliance with Customer- Specific requirements	R	Prior to production

S	Submit to the DTL for approval. Retain a copy of records or documentation items at appropriate locations.
R	Retain at Manufacturing location. Readily available to DTL representative upon request.
#	Applicable if supplier has design responsibility

After the warrant has been submitted, DTL reviews the data and either approves it in writing or rejects and requests a correction of discrepancy in writing. Conditional acceptance is a term used when DTL rejects the warrant, requests a correction of discrepancy, and issues a deviation to use the parts.

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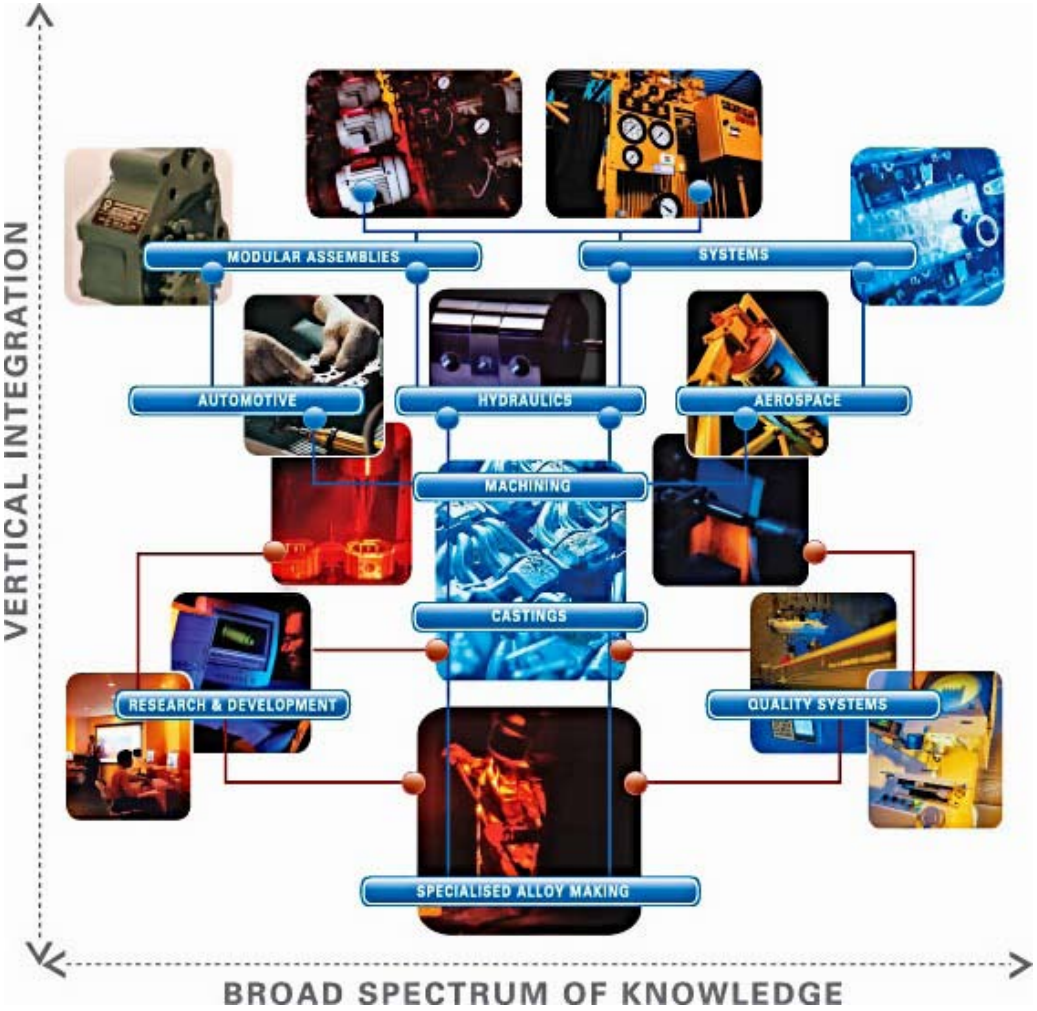
VERTICAL INTEGRATION
MODULAR ASSEMBLIES
SYSTEMS
AUTOMOTIVE
HYDRAULICS
AEROSPACE
MACHINING
CASTINGS
RESEARCH & DEVELOPMENT
QUALITY SYSTEMS
SPECIALISED ALLOY MAKING
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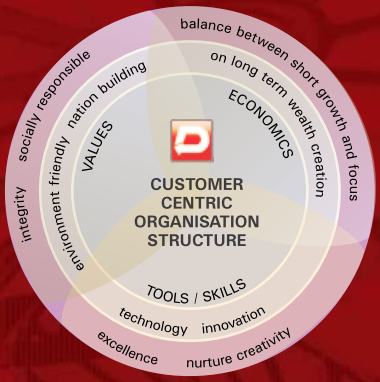

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